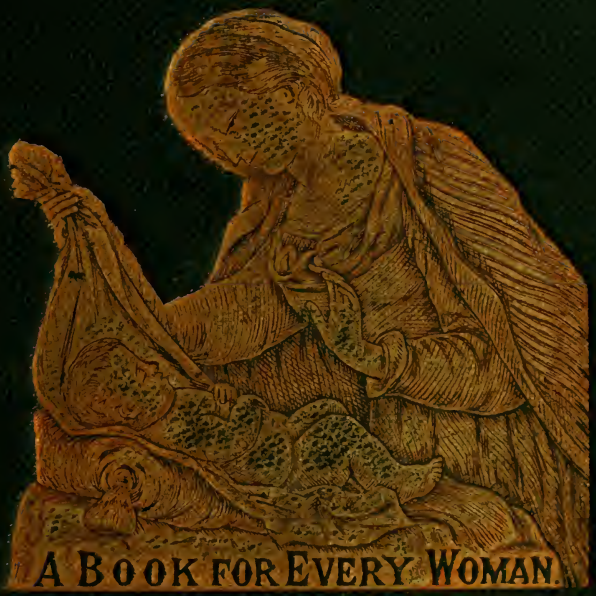
A BOOK FOR EVERY WOMAN.

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TOKOLOGY

A BOOK FOR EVERY WOMAN.

BY

ALICE B. STOCKHAM, M. D.

Maternal love! Thou word that sums all bliss;
Gives and receives all bliss, fullest when most
Thou givest!

—*Pollock.*

TWENTY-THIRD EDITION.

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THIS BOOK IS DEDICATED

First:

to my Daughter
whose faith in the physical
redemption of woman by correct
living, has been a constant
inspiration in its
production;

Second:

to all Women
who following the lessons
herein taught, will be saved the
sufferings peculiar to
their sex.

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AUTHOR'S SPECIAL REQUEST.

The author earnestly solicits every lady who has followed the teachings of *Tokology* during pregnancy to communicate the result. Her name will be suppressed if desired. For the sake of all suffering women she asks a faithful report upon these points:

What experience in previous labors?

How long before confinement had *Tokology*?

What hindrances to following directions?

Did you take all the exercises recommended?

Did you climb stairs and walk daily?

Did you follow any occupation or do housework?

How near did you dress according to instructions?

Did you take the baths prescribed, and which gave the most relief for existing symptoms?

Were hot sitz baths taken during confinement?

How faithfully was fruit diet followed?

Did you eat meat, pastry or butter?

Did you omit the products of the wheat?

How many meals a day were taken?

Did you live a continent life during the entire nine months?

Give the length and severity of labor, also condition of child at birth and its subsequent health.

Did you have trouble with the breasts or any post-partem disease?

State length of time and particulars of recovery.

Add other items of interest, also experiences of other persons coming to your knowledge, and oblige

A. B. STOCKHAM, M. D.,
Chicago, Ill.

TOKOLOGY.

CHAPTER I.

INTRODUCTORY.

PAINLESS CHILDBIRTH.

A traveler, who had spent many years in foreign lands, whose sympathies and occupation brought him in close relationship with all classes of people and gave him great opportunities to understand all conditions, was asked if child-bearing was attended with as much suffering by women in foreign countries as in this. He answered, "I know of no country, no tribe, no class, where childbirth is attended with so much pain and trouble as in this country." In India, Hindoostan, China, Japan, the South Sea Islands in South America, indeed, in no country do women suffer both in pregnancy and parturition as they do in this. Possibly among the higher classes in Europe there may be equal suffering; but the peasantry everywhere are comparatively exempt. Dr. Storer says: "There is probably no suffering ever experienced which will compare, in proportion to its extent in time with the throes of parturition. Dr. Meigs says: "Men can not suffer the same pain as women. What do

you call the pains of parturition? There is no name for them but *agony!*"

It is too true that women *go down to death* in giving birth to children. Thousands of women live to-day in this country who believe this pain is natural and can not be alleviated or avoided. "In sorrow thou shalt bring forth children" is thought to be a *curse* that applies to all women of all time.

Even the poet tells us:

> "'Tis the common lot;
> In this shape or that, has fate entailed,
> The mother's throes, on all of woman born,
> Not more the children, than sure heirs of pain."

If this pain and travail is a natural accompaniment of physiological functions—if it is a *curse* upon women, then why are the rich, the enlightened and more favored daughters of earth greater sufferers than the peasantry, the savage, the barbarian, and those we call heathen?

This is a subject closely allied to the interests of the race. American women in education and enlightenment, in freedom and progress, are the peers of the best and noblest of their sex, and from individual, social and national interests, ought to be conversant with all that pertains to this subject.

We find in woman with superior education and marked intelligence an exaggerated development of the emotional nature and a corresponding deterioration of physical powers. Weakness, debility, and suffering is the common lot of most of them. Not one in a hundred has health and strength to pursue any chosen study, to follow any lucrative occupation

and what is vastly worse, most are unfitted for the duties and perils of maternity.

Dr. Gaillard Thomas says: "Neither appreciation of nor desire for physical excellence sufficiently exists among refined women of our day. Our young women are too willing to be delicate, fragile and incapable of endurance. They dread above all things the glow and hue of health, the rotundity and beauty of muscularity, the comely shapes which the great masters gave to Venus de Medicis and Venus de Milo. All these attributes are viewed as coarse and unladylike, and she is regarded as most to be envied whose complexion wears the livery of disease, whose muscular development is beyond the suspicion of *embonpoint*, and whose waist can almost be spanned by her own hands. As a result, how often do we see our matrons dreading the process of child-bearing, as if it were an abnormal and destructive one; fatigued and exhausted by a short walk, or ordinary household cares; choosing houses with special reference to freedom from one extra flight of stairs, and commonly debarred the one great maternal privilege of nourishing their own offspring. These are they who furnish employment for the gynecologist, and who fill our homes with invalids and sufferers."

Understanding and following physiological laws, pregnancy *ought* to be as free from pathological symptoms, and parturition as free from suffering with American women as with any tribe on earth, or even the lower animals. The universal testimony of missionaries and travelers is that the

squaws of our own Indian tribes experience almost no suffering in childbirth, and the function scarcely interferes with habits, pleasures or duties of life. I have myself seen a squaw of the Ottawa tribe carrying her papoose upon her back, strapped to a board, when it was only twenty-four hours old.

Dr. Dewees says, "*Pain in childbirth is a morbid symptom;* that it is a perversion of nature caused by modes of living not consistent with the most healthy condition of the system, and that such a regimen as should insure such a completely healthy condition might be counted on with certainty to do away with such pain."

The great English scientist, Professor Huxley, says, "We are, indeed, fully prepared to believe that the bearing of children may and *ought* to become as free from danger and long debility to the civilized woman as it is to the savage."

The following paragraphs, from one of the essays in Dr. Montgomery's classical work on Pregnancy, are interesting, as giving circumstantial details of cases in illustration of the belief in the practicability of painless parturition:

"In a letter to me, Dr. Douglas states that he was called about six A. M., Sept. 26, 1828, to attend a Mrs. D., residing on Eccles St.

On his arrival he found the house in the utmost confusion, and was told that the child had been born before the messenger was dispatched for the doctor. From the lady herself he learned that, about half an hour previously she had been awak-

ened from a natural sleep by the alarm of a daughter about five years old, who slept with her.

This alarm was occasioned by the little girl feeling the movements, and hearing the crying of an infant in the bed. To the mother's great surprise she had brought forth her child without any consciousness of the fact.

A lady of great respectability, the wife of a peer of the realm, was actually delivered once in her sleep; she immediately awakened her husband, being alarmed at finding one more in bed than was before.

I have elsewhere mentioned the case of a patient of mine who bore eight children without ever having labor pains. Her deliveries were so sudden and void of sensible effort that in more than one instance they took place under most awkward circumstances, but without any suffering."

Dr. J. King, in his work on Obstetrics, speaks of attending cases where there was no sensation of pain.

Some very marked cases have come to my own knowledge proving the possibility of painless labor. A neighbor of mine engaged me to attend her in four different confinements. I never was able to reach her before the birth of the child, although I only lived across the street and, according to her injunctions, always kept my shoes "laced up." She sent for me, too, at the first indication of labor. There was always one prolonged effort and the child was expelled. The heads of her children were greatly

distorted, showing great pliability of the osseous structure.

Another lady patron had two children without a *particle of pain.* With the first she was alone with her nurse. During the evening she remarked she felt weary and believed she would lie down. She had been on the bed no more than twenty minutes when she called to her nurse saying, "How strange I feel! I wish you would see what is the matter." When to their astonishment the child was born!

Two years later I was summoned to the same lady about ten at night. The membranes were ruptured, but no other visible indication of labor. Investigation revealed dilation of the cervix and although she soon fell into a quiet slumber, I noticed regular and distinct contractions. The child was born about two *without any sensation* of pain. I have no doubt in her previous confinement the contractions went on the same, and if she had been one to mark her symptoms closely, she would have felt them as one feels muscular contractions in the performance of other natural functions.

The cases that have been cited, so far as is known, were persons in excellent health, and some were persons of exceptionally fine and strong constitutions. Dr. Holbrook in his "Parturition Without Pain," says: "These women of savage nations who bear children without pain, live much in the open air, take much exercise, and are physically active and healthy to a degree greatly beyond their more civilized sisters. These instances tend directly to

prove that parturition is likely to be painless in proportion as the mother is physically perfect and in a perfect condition of health. They certainly tend even more strongly to prove that pain is not an absolutely necessary attendant of parturition.

The course of modern scientific investigation, however, has gone far to justify a belief that this terrific burden upon humanity can be almost entirely removed. That the pain can be as completely done away with as the danger and disfigurement from small-pox. At the same time, this immeasurable benefit to humanity can not be obtained without proper use of means, and the continuance of such use for a considerable period. The doctrines of the ablest thinkers on the subject will be found to agree in this: that it is the previous life of the mother—*the whole of it*, from her birth to the birth of the child—which almost entirely determines what her danger, her difficulty, and her pain during childbirth shall be. Her easy or difficult labor, in fact, is almost entirely her own work. Her conduct during gestation, it is true, is more immediately influential in the decision than remoter periods, and is or may be very greatly more influential upon the future life of her offspring than even upon herself."

Dr. Oliver Wendell Holmes once said he believed any disease, no matter how virulent, how malignant or how deep-seated, whether it was cancer, consumption or cholera, any disease could be *cured* if the physician was called in time. But in his wonted humor he added, "there are cases in which the

physician should be called two hundred years in advance."

While with Dr. Holmes, I believe it will take years to eradicate hereditary taints, and thus produce men and women of physical perfection; still, I do know that any woman possessing sufficient vitality to make procreation possible, can do much, even during pregnancy, to alleviate the sufferings of that period, as well as the final throes of travail.

CHAPTER II.

CONCEPTION.— FETAL DEVELOPMENT.

The reproductive apparatus of the female consists essentially of ovaries, oviducts and uterus The ovaries are two almond-shaped bodies, situated about two and a half inches distant on either side of the uterus. They are enclosed in the broad ligaments and suspended by a thread-like cord from the womb, also attached to the outer extremities of the oviducts. They consist of a stroma in which vesicles are imbedded. It is within these vesicles that the *ova* or eggs are found. During the child-bearing period, every four weeks, an ovum matures and bursting through the vesicle, as well as the surrounding membrane of the ovary is conveyed to the womb by the oviduct. While not the largest, the ovary is the most important of the generative organs of a woman. These contain the fructifying principle, and also give the characteristics of sex. These mysterious bodies are the grand source of feminine attractions. Remove the other organs and you do not change her in this regard—remove the ovaries and she becomes masculine not only in character but appearance. Her figure changes, her voice becomes coarse and of lower pitch, her throat enlarges, and, in most instances, whiskers appear. Any diseased condition, too, of the ovaries produces great constitutional as well as

emotional disturbances. Upon these apparently insignificant structures depends the creative power of the race.

The oviducts or fallopian tubes are minute cylindrical tubes or openings from the superior and lateral portion of the uterus; about three inches in length and terminating in fimbriated or finger-like extremities. The latter are minute, muscular bodies, which, when the ovum bursts through the membrane of the ovary, grasp it like fingers and convey it through the oviduct to the uterus. The ovum is not more than 1-120 of an inch in diameter, and the cavity of the oviduct is so small that it will not more than allow the entrance of a hog's bristle.

The uterus is a pear-shaped muscular organ situated in the inferior straight of the pelvis, between the bladder and rectum. It is less than three inches in length and two inches in width, and one in thickness. It is pear-shaped, the *cervix* pointing to the coccyx. The *canal* or opening into the *uterus* through the cervix is small, capable of admitting a probe $\frac{1}{8}$ to $\frac{1}{4}$ of an inch in diameter. The walls are muscular, and in the unimpregnated state about half an inch in thickness. The cavity of the uterus is small and conical, having three openings, two at its upper portion into the oviducts and one into the vagina. The latter is called the *Os uteri* or mouth of the womb. Its upper broad portion is called the *fundus*. It weighs from one to two ounces. It is difficult to realize how very diminutive this organ is in the virgin state, espe-

cially when we consider its power of distension in its principal office of giving support to the fetus.

The external portion of the uterus is covered by the *peritoneum*, a serous membrane which is continuous with the lining of the abdomen and covering of all the viscera. The uterus is held in place by ligaments formed of folds of the peritoneum. The broad ligament enveloping the oviduct and ovaries extends to either side, and is firmly attached to the sides of the pelvis. The round ligaments, formed from obliterated blood vessels of fetal life and peritoneal covering, pass from the upper portion of the womb to the outside of the pelvis-bone and terminate in muscular and cellular tissue. There are also folds of peritoneum between the womb and bladder in the front, and the womb and rectum in the back that assist in holding it in position. It is besides largely supported by the elasticity of the vagina. So well sustained is the uterus that only serious violations can cause deviations of position.

The vagina is simply the outlet or passage from the uterus to the exterior surface. It is longer in back than in front, being from three to four inches in front and from five to six inches in the posterior portion. Is a cylindrical tube of firm elastic tissue, capable of great distension. The neck of the *uterus* dips into the upper part of the vagina about three fourths of an inch. The communication between these organs is the *cervical canal*, which in health is found closed, admitting a probe with difficulty. The *uterus* and *vagina* are

not one and the same as many suppose, yet are dependent upon each other.

CONCEPTION OR IMPREGNATION takes place by the union of the male sperm and female germ. Whether this is accomplished in the *ovaries*, the *oviducts* or the *uterus*, is still a question of discussion and investigation by physiologists.

The *ovum* or egg matures and is taken up by the fimbriated extremities of the oviducts at the time of menstruation. To reach the outer world it must pass the length of the oviducts, the cavity and canal of the uterus and vagina. The fructifying principle of the semen is called zoosperms, and under strong magnifying power are seen to be filaments endowed with power of propulsion.

Once entering the uterine cavity there is no reason why they should not be able to pass into the oviducts or even to reach the ovaries. The probabilities are, impregnation can take place at any point in the generative tract, providing the ovum and sperms come in contact during their viability. It is pretty well proven that the ovum after maturation and dislodgement from the ovaries may retain its life from six to eight days, and, also, be that length of time in making its exit from the uterus. That the sperms are viable, also, for some days, if retained in their own element at a certain temperature, has been established quite definitely.

When impregnation is desired the sexual act should occur as soon as possible after menstruation, the impregnation not being likely to take place

after the sixth or eighth day. With many women the ovum passes off within twenty-four or forty-eight hours. Some, by careful observation, are able to know with certainty when this takes place. It is often accompanied with *malaise*, nervousness, headache, and with some actual uterine pain. Also, a minute substance like the white of an egg, with a fleck of blood in it, can be seen upon the clothing. Ladies who have noticed this phenomenon testify to its occurring very regularly upon the same day after menstruation. Some delicate women have observed it as late as the fourteenth day. Can conception take place after sufficient time has elapsed for the ovum to have left the *uterus?* Dr. Cowan says: "Sexual excitement hastens the premature ripening and meeting of the germ-cell with the sperm-cell, and impregnation may result, though intercourse occurs only in the specified two weeks' absence of the egg from the uterus."

Possibly this may be the case under some circumstances, such as diseased conditions, or long separation of husband and wife.

NOURISHMENT AND DEVELOPMENT OF THE EMBRYO.—There are three distinct types of nutrition in the uterine development of the human being:

First—Yolk nutrition.

Second—Tuft nutrition.

Third—Placental nutrition.

The period of yolk nutrition in the human is brief and probably variable. The minute size of the egg renders it impossible for it to furnish nutriment any length of time, as it does to the embryo

of the fowl. From five to eight days after conception takes place, a membrane is formed around the ovum, called the chorion. Outside of this is still another membrane attaching itself to the womb. The internal surface of the chorion is supplied with villi or tufts resembling mulberry seed. Through these the embryo receives its nutrition until at the close of the second month from these tufts the *placenta*, or after-birth, begins to be developed. This is attached to some portion of the uterus, usually the upper lateral portion.

The PLACENTA is the proper vascular apparatus for the combined purpose of nutrition, respiration and excretion. Or, at least, through its circulation all these functions are accomplished.

This, with the membranes surrounding the fetus and umbilical cord, are called the *after-birth*.

The placenta at full term weighs from three-fourths to one and one-fourth pounds. It is a spongy, vascular organ, eight to ten inches in diameter, and two or three inches thick at center, thinning at the edges. In appearance is not unlike a piece of liver, only less solid.

It lies in complete juxtaposition with the uterus with almost an imperceptible membrane interposed. The fibres and blood vessels of the uterus and placenta do not interlace, as some suppose; each have a distinct set of blood vessels and capillaries, and a separate circulation. Nutrition and excretion are carried on by *exosmosis*, or transudation through this very attenuated membrane.

THE FETAL CIRCULATION is a very interesting

phenomenon. Instead of the blood going to the lungs for oxygenation, the entire circuit is performed without this, as the lungs are dormant, the placenta serving the office of lungs as well as digestive organs. From the placenta oxidized blood is brought through the umbilical vein, a large portion of it passing to the liver, but all eventually enters the heart by the ascending vena cava. By the Eustachian valve it is directed through the foramen ovale to the left auricle, from this to the left ventricle, which conveys it to the aorta. Part of the blood, instead of taking this course, enters the right ventricle, and in place of going to the lungs through pulmonary arteries, passes at once to the aorta, through what is called the ductus arteriosus. After traveling the entire circuit, it is taken back to the placenta by two umbilical arteries, which are given off from the iliac arteries. At birth the *foramen ovale* is closed, establishing a complete septum between the auricles of the heart. This failing to close we have *cyanosis neonatorum* or blue disease. The venous blood commingles with the arterial blood, and death is the result sooner or later. This produces what is called a "blue baby."

At birth the *ductus arteriosus* also closes; the umbilical veins form the round ligament of the liver, and the umbilical arteries the round ligament of the uterus in the female, and the urachus, a ligament of the bladder, in the male.

The umbilical cord is made up of two arteries and one vein, covered by the membranes continu-

ous from the child. It is from two to four feet in length, attached at one extremity to the placenta, and at the other to the navel of the child. This is the medium of the circulation from the placenta to the fetus. The *membranes* all unite before birth to form one thick, tenacious covering for the child. These enclose the fluid—the *liquor amnii*—which serves to protect the fetus from blows or sudden jars. The membranes and the contained fluid form what is known as the "bag of waters." Not rupturing before birth, they make what is called a *veil* or *caul* over the child's face, to which is attached various superstitions, such as the gift of "second sight," clairvoyance, etc. These membranes cover the cord and the fetal surface of the placenta.

HEALTHY NUTRITION of the *fetus* depends entirely upon the mother. The placenta not only represents the digestive organs but the lungs of the *fetus*. Consequently upon the condition of the mother depends the condition of the child. It has no other means of getting nutriment, or of disposing of waste material. After birth it has the same advantage as the adult of correcting errors in diet and nutrition by elimination. The skin, with its miles of perspiratory ducts conveys effete matter from the system, the lungs keep up by respiration a constant interchange of oxygen for carbon, while the liver, kidneys and bowels are active in their functions of depurition.

IN UTERO these functions are all dormant, consequently giving the fetus a disadvantage for healthy

growth. Mothers often show great solicitude about diet and conditions during lactation, while they are comparatively indifferent during pregnancy. Especially should they breathe deeply and that, too, of pure air. Trall says, "If the mother does not breathe sufficiently the child must suffer. Many a mother gives birth to a frail, scrofulous child, for no reason except that during the period of gestation she is too sedentary and plethoric. I have known women of vigorous constitutions, who had given birth to several healthy children, become the mothers of children so puny and scrofulous that it was impossible for them to be raised to adult age. The reason is that the mother is obstructed in her respiratory system, and although she may breathe enough to sustain her own organization in a fair condition, she does not inhale oxygen enough to supply the needs of an intra-uterine being. Many 'still births' are explainable on this principle."

The duration of pregnancy is nine calendar months or ten lunar months, about 280 days. If the date of impregnation is not known the *count* should be made from the beginning of the last menstruation, and add eight days on account of the possibility of its occurring within that period. It is possible in some diseased conditions for the period to extend much beyond this time. I knew one case of amniotic dropsy where pregnancy extended forty four weeks.

Helen Idleson, M. D., in the *Med. Wochenschrift*, sums up the results of her investigations as follows: 1. The duration of pregnancy amounts to

278 days, or nearly 40 weeks. 2. The sex of the infant influences the duration, this being longer in female infants. 3. The heavier the child the longer is the duration (?). 4. The duration is longer in multiparæ than in primiparæ. 5. The younger the woman the longer is the duration. 6. The duration is longer in married than in unmarried women. 7. The first movements of the child are felt, on an average, on the one hundred and thirty-fifth day, but later in primiparæ than in multiparæ.

"The *growth of the embryo* after fecundation is very rapid. On the *tenth* day it has the appearance of a semi-transparent, grayish flake. On the *twelfth* day it is nearly the size of a pea, filled with fluid, in the middle of which is an opaque spot, presenting the first appearance of an embryo, which may be clearly seen as an oblong or curved body and is plainly visible to the naked eye on the *fourteenth* day. The *twenty-first* day the embryo resembles an ant or a lettuce-seed; its length is from four to five lines and its weight from three to four grains. Many of its parts now begin to show themselves, especially the cartilaginous beginnings of the spinal column, the heart, etc.

The *thirtieth* day the embryo is as large as a horse-fly, and resembles a worm bent together. There are yet no limbs, and the head is larger than the rest of the body. When stretched out it is nearly half an inch long. Toward the *fifth* week the head increases greatly in proportion to the remainder of the body, and the rudimentary eyes are indicated by two black spots turned toward

the sides, and the heart exhibits its external form, bearing a close resemblance to that in the adult.

In the *seventh* week bone begins to form in the lower jaw and clavicle. Narrow streaks on each side of the vertebral column show the beginning of the ribs. The heart is perfecting its form, the brain enlarged and the eyes and ears growing more perfect and the limbs sprouting from the body. The lungs are mere sacs, about one line in length and the trachea is a delicate thread, but the liver is very large. The arms are still imperforate. In the seventh week are formed the renal capsules and kidneys. At *two months* the forearm and hand can be distinguished, but not the arm; the hand is larger than the forearm, but it is not supplied with fingers. The distinction of sex is yet difficult. The eyes are prominent, but the lids do not cover the eyeballs. The nose forms an obtuse eminence. The nostrils are rounded and separated. The mouth is gaping and the epidermis can be distinguished from the true skin. The embryo is from one and a half to two inches long and weighs from three to five drachms, the head forming more than one third of the whole.

At the end of *three months* the eyelids are distinct but shut; the lips are drawn together; the forehead and nose are clearly traceable, and the organs of generation prominent. The heart beats with force, the larger vessels carry red blood; the fingers and toes are well-defined, and muscles begin to be developed.

At the *fourth* month the embryo takes the name

of *fetus*. The body is six to eight inches in length and weighs from seven to eight ounces. The skin has a rosy color, and the muscles now produce a sensible *motion*. A fetus born at this time might live several hours.

At *five* months the length of the body is from eight to ten inches, and its weight from eight to eleven ounces.

At *six* months the length is twelve and a half inches; weight one pound. The hair appears upon the head, the eyes closed, the eyelids somewhat thicker, and their margins as well as the eyebrows are studded with very delicate hairs.

At *seven* months, every part has increased in volume and perfection; the bony system is nearly complete; length twelve to fourteen inches, weight two and a half to three pounds. If born at this period the fetus is able to breathe, cry and nurse, and may live if properly cared for.

At *eight* months, the *fetus* seems to grow rather in length than in thickness; it is only sixteen to eighteen inches long and yet weighs from four to five pounds. The skin is very red, and covered with down and a considerable quantity of sebaceous matter. The lower jaw, which at first was very short, is now as long as the upper one.

Finally, at *term* the fetus is about nineteen to twenty-three inches long, and weighs from six to nine pounds. The red blood circulates, in the capillaries and the skin performs the functions of perspiration; the nails are fully developed."

Position of the fetus.—The fetus usually lies

with the head downward, covered within the bag formed by the membranes, the head is flexed, the chin resting upon the breast. The feet are bent in front of the legs, the latter flexed upon the thighs. The knees are separated from each other, but the heels lie close together on the back of the thighs; the arms are crossed upon the breast, so placed that the chin can rest upon the hands.

In this way it forms an oval, whose longest diameter is about eleven inches. This is the usual position, yet it may be found to vary from it.

CHAPTER III.

PREGNANCY—SIGNS AND SYMPTOMS.

The signs of pregnancy are physiological and pathological. Physiological, those common to all women, especially those whose life accords with physical laws. Pathological, those that are the result of and accompany diseased conditions.

Of the physiological, the four principal ones are cessation of menstruation, increase of size, quickening, and the fetal heart beat.

A woman having cohabited with a man, *ceasing* to *menstruate*, ordinarily may consider that conception has taken place. Suppression can be the result of cold, of inflammation, of some chronic uterine diseases, more especially dropsy or tumors, also of any slow, wasting disease like scrofula, consumption and diarrhœa. This sign of itself is not a positive indication of pregnancy. Occasionally, too, women menstruate during the entire time of gestation. This, without doubt, is an abnormal condition, and should be remedied, as disastrous consequences may result. Also, women have been known to bear children who have never menstruated. Some physiologists believe that all menstruation is abnormal. That if the human female was in the perfect health of nature, there would be no sanguineous discharge accompanying ovulation. A Quaker missionary, who had spent

many year among the Indians, relates that the squaws, in perfect health, have no sanguineous flow, either as monthly periods or after confinement.

While the cases are rare of pregnancy taking place where menstruation has never occurred, yet it frequently happens that women never menstruate from one pregnancy to another. In these cases this symptom is ruled out for diagnostic purposes.

INCREASE OF SIZE accompanies pregnancy about the third month, when the uterus enlarges and arises above the brim of the pelvis. Any enlargement previous to this time must be due to bloating, flatulence or excess of fat that some are inclined to in gestation. This sign, taken alone, can not be relied upon as diagnostic. It may be occasioned by various causes, and often accompanies the very same conditions that suppression does. Instances are not rare in every town and neighborhood where women have made elaborate preparations for confinement, only to be disappointed by finding they were the victims of some serious disease.

In a woman whose abdominal parietes are thin, by the tenth or twelfth week of pregnancy the fundus of the uterus can be felt and grasped by the hand. Lying upon the back, the shoulders slightly raised, the knees flexed, thus relaxing the abdominal muscles, by pressing the fingers deeply back of the pubic bone, the enlarged womb can be felt like a hard ball or large orange. Digital examination also reveals the cervix higher at this period in most cases.

QUICKENING.—The involuntary movements of the

child occur from the eighteenth to the twentieth week. Sometimes these motions begin as early as the third month, and then are a feeble fluttering only, causing disagreeable sensations of faintness and nausea. The "motion" of the child is regarded by women, especially if they have borne children, as an unequivocal sign. But cases are common where the throbbing in a tumor, or the peristaltic action accompanying flatulence has been mistaken for fetal movements.

Unless the *motion* is very marked, quick, elastic and distinct, it alone can not be relied upon as a diagnostic symptom. Taken together with other signs it aids both physician and patient to a positive conclusion.

THE FETAL HEART BEAT.—The sign by which physicians can determine pregnancy with certainty is by noting the difference between the beating of the fetal and maternal hearts. The ordinary pulse of a woman is from 70 to 80 per minute, while that of the fetus is from 120 to 140.

Auscultation through a stethoscope will reveal this fact, and thus give us a certain diagnosis. If it is a throbbing or pulsating in a tumor it would be synchronous with the maternal cardiac action. This symptom is not of much value till after the fourth month. By that time, if a physician's ear is educated to fine discriminations, he will never make a mistake in his diagnosis.*

* I can not leave this subject without urging upon women the necessity of educating their own fingers to judge of the heart's actions by the radial pulse. Get your physician to tell you and

The enlargement of the breasts at about the third month, the secretion of a fluid in them, also the darkening of the areola around the nipples are of frequent or usual attendance upon gestation—but not always, consequently can not be taken as diagnostic symptoms.

The pathological symptoms are more numerous. Indeed almost any symptom accompanying any disease may attend child-bearing. This is a sad reflection upon our enlightened civilization. Were it not for these I would claim no mission for my book. The facts now are that with most American women the 280 days of pregnancy are days of disease and suffering. The inconvenience, the discomfort and the pains attendant upon this condition, together with the dread of the final throes of travail, transform this period, that should be a period of hope, of cheerfulness, of exalted pleasure, into days of suffering, wretchedness and direful forebodings. It is one long, nightmare and child-bearing is looked upon as a curse and not a blessing. Motherhood is robbed of its divinest joys.

Dr. Cowan says: "The period of pregnancy should be one of increased health, rather than increased disorders. The mother who has hitherto led a true life, will, during this period, experience an exhila-

study in your books the meaning of quick, a throbbing, a slow, a weak, feeble and wiry pulse. It is one of the surest guides to abnormal conditions, and is a great aid to nurses in the administration of all remedial measures, besides often determining the necessity of medical aid. In my *conversations* with women I often in an audience of 100 ladies find none who know even the frequency of the normal pulse.

ration of spirits, a redundancy of health and cheerfulness of mind that is not to be enjoyed at any other time."

Alas! how few have this experience.

Ordinarily pregnancy both by physicians and women is classed among the diseases. Physical sufferings and mental agonies are the common accompaniment of the condition. Murderous intent fills the mother's heart and the fearful crime of feticide is daily recorded upon the criminal calendar.

Do physicians offer any relief for this state of things?

It is a lamentable fact that most do not. Not long since a lady told me that for seven months before her child was born she never knew one hour's relief from nausea—that she was not conscious of retaining any nourishment upon her stomach, and that no day elapsed without vomiting blood. She consulted three different physicians, and each one told her nothing could be done except to wait for "nature's relief." She went home in despair and suffered to the end. When she heard the theories I teach, with suppressed emotion she exclaimed: "Thank God, for the hope you give. To my dying day I shall use my feeble voice to promulgate these truths that others may not grope in the valley as I have."

Yes, women can be saved much suffering even during pregnancy, and I know if they study this and subsequent chapters intelligently, practicing the precepts therein, they will thank God for the light herein given.

CHAPTER IV.

PATHOLOGICAL SYMPTOMS OF PREGNANCY—INDIGESTION—NAUSEA.

The first, most common and most important of these symptoms is *indigestion* or *dyspepsia*. This in the pregnant woman causes or, is accompanied by nausea, vomiting, constipation, headache, heartburn, flatulence, salivation, diarrhœa, piles, greedy appetite, loss of appetite, longings, etc. Other symptoms are neuralgia, toothache, cramp, swellings of the extremities, pain in the side, insomnia, drowsiness, palpitation of the heart, leucorrhœa, pruritus, etc.

INDIGESTION OR DYSPEPSIA is the most common ailment afflicting the human family. It is at the foundation of most every other disease. Men and women in every station of life are more or less subject to it; few are entirely exempt. "A good digestion turneth all to health." The pregnant woman, however, is especially liable to suffer from its multiform miseries. Her nervous organization is peculiarly sensitive at this time, besides reflex action from the gravid uterus upon the sympathetic ganglia of nerves controlling the alimentary processes causes many symptoms. Indigestion is usually attributed entirely to a failure of the stomach to perform its functions. The term is equally applicable to a failure of any of the assimilative op-

erations. The limits of this work will not permit a dissertation upon these processes and their abnormal conditions. Deeming the specified symptoms consequent upon indigestion, that accompany pregnancy, of more practical value, their causes and treatment will be especially considered. In passing, however, let me say while there are many causes of dyspepsia, there is no one more potent than the common attempt to nourish the body from food that can not be digested in the stomach. The principal articles that the acid gastric juice has no effect upon are starch and fats. They can only be rendered soluble in alkaline fluids which are the saliva, pancreatic juice and the bile. By partaking of starch and fats to excess, the stomach is overtaxed in expelling them, besides the body fails to get elements of nutrition in proper proportions from them. The natural food of the infant contains no starch. The carbonates of milk being sugar and butter. Usually the first solid food given to a child, contains little else but starch; these are bread from white flour, and potatoes, rendered more indigestible by the addition of butter and rich gravies. These are lacking in nitrogeneous and saline products, consequently the muscles, bones and nerves are insufficiently nourished. A substitution of the entire product of the wheat, barley, oats and other grains would obviate this difficulty and lessen the frightful mortality of children. Dr. Bellows says: "So perfectly ignorant are people generally of the laws of nature that they give their pigs the food which their children need to develop

muscle and brain and give their children what their pigs need to develop fat. For example, the farmer separates from milk the muscle-making and brain-feeding nitrates and phosphates and gives them to his pigs in the form of buttermilk, while the fattening carbonates he gives to his children in butter. He sifts out the bran and outer crust from the wheat, which contains the nitrates and phosphates, and gives them also to his pigs and cattle, while the fine flour containing little else than heating carbonates, he gives to his children. Cheese, which contains the concentrated nutriment of milk, is seldom seen on our tables, while butter, which contains not a particle of food for brain or muscle, is on every table at all times of day." *

The elements digested in the stomach are fibrine, its type found in lean meat, albumen, casein, gluten of the grains, and the nitrogeneous principles of fruits and vegetables.

These are the elements that build up the muscles, while the carbonaceous elements, such as sugar, starch and fats, by combination with oxygen, furnish animal heat. Too much of the latter produce inflammatory conditions and should be partaken of moderately by all people who do not lead an active out-door life.

Morning Sickness.—Nausea, with or without vomiting, occurs so frequently in pregnancy that

* Cheese when digested furnishes more muscle-feeding properties than any other food, and hence is desirable for working men, but should be taken as food, not as a relish only. Few people of sedentary habits, however, digest cheese readily.

most women think it a natural accompaniment of their condition, relying upon it as a diagnostic symptom. It may begin the day following conception, but usually appears from the sixth to the eighth week. It is unlike nausea which accompanies biliousness, fevers, the effects of drugs, or even sea-sickness. It is a nausea that one feels from the crown of the head to the soles of the feet; one is "sick to the stomach" all over.

Asking the cause of this, ninety-nine out of a hundred aver they believe it to be natural, and more than all, not to be avoided. Besides, the *grandmother* of the neighborhood has told them that on account of this, the child will be more healthy and the delivery easier. Facts do not bear her out in either assertion.

The real causes are in the violation of physical laws, in dress, diet, exercise, etc.

The conditions are, first, an irritation in the womb caused by some disease, which by sympathetic or reflex action is communicated to the stomach, and second, that state commonly called biliousness.

The whole body is supplied with nerves distributed from the brain and spinal column. Besides these every organ is supplied with ganglia of sympathetic nerves which communicate with all nerves and with each other, being so interlaced that almost every part of the body is in communication with every other part. It is really a complete system of telegraphy. Both the uterus and stomach are remarkable in their supply of nerves, and any-

thing going wrong in the former is instantly conveyed to the latter. It is not unusual that an inflammation, a congestion or displacement of the womb give no local symptoms—but by reflex action there are headaches, indigestion, neuralgia and various ailments. So, of the gravid uterus, if from any existing local disease or any cause in the system it does not take kindly to its new function, the hyperæmia and irritation instead of causing local pain and distress will be communicated to other organs, most frequently to the stomach, producing nausea, vomiting, as well as often acute suffering. What is *biliousness?* Ladies, you know the condition to which you apply this term. Frequent headaches, aversion to food, languid, sleepy and tired feeling. You get up in the morning weary, cross, irritable, out of sorts with everybody and everybody retaliates by being out of sorts with you. What has happened in the human organism? What do you understand is biliousness? Listen to the answers. One says "It is an overflow of bile," another, "Too much bile," "The liver don't act," "The bile has reverted back to the blood," "The bile is secreted by the stomach," "Too high living."

Dr. Dio Lewis says: "Biliousness is piggishness." My habit has been to define it simply as *overfeeding.* At least the elements of the bile are in the blood in excess of the power of the liver to eliminate them. This may either be caused by inaction of the organ itself, or superabundance of the materials from which the bile is made. Being

thus retained the system is burdened, or to use a homely but expressive phrase, is *clogged*. To produce this, food may be too great in quantity, or too rich in quality. Especially is caused by the excessive use of fats and sweets. The question arises, how does this biliousness produce nausea in the pregnant woman, and why does it show itself this way, when she was comparatively well previous to this condition?

In the new process of gestation the whole system is roused to action and nature makes an effort to relieve the organs of all foreign or *bilious* matter. Her first means to produce this result is by nausea and vomiting. Many women have an attack of bilious fever, more or less severe, in the first months of pregnancy. Not only food that is too nutritive, or too abundant, will bring about this condition, but lack of exercise conducive to normal action in the assimilative organs is another cause. Also clothing that in any way restricts this action, will be followed by the same result. At any time the bands and corsets so universally comprising a part of woman's dress are injurious, because they restrict the action of the liver and other organs, but they are doubly deleterious when there is a natural increase in size. Besides the direct pressure upon the uterus will produce irritation in that organ. I was spending a few days with an old friend who was four months advanced in pregnancy. She had had no unpleasant symptoms. One day we were on the street walking, she was suddenly seized with vomiting. Trying to investigate

the cause I asked her if she wore the dress she was accustomed to. "No," she says: "I have not had this on for months and it is too tight." She loosened it under her cloak and had no more trouble.

One potent cause of morning sickness is the habit of sustaining the sexual relation during gestation. By this means a hyperæmia is produced in the reproductive organs as well as exhaustion of the nerve supply. By reflex action nausea is the result. Incalculable benefits would be derived if married people imitated the lessons of lower animals in this matter—thereby conserving all forces for the benefit of offspring.

TREATMENT.—If inflammation or ulceration of the uterus is chronic, one can not expect to overcome nausea entirely in a short time. But much can be done by wearing a compress and taking sitz baths, directions for which will be found in Chap. VIII. Observe thoroughly all hygienic measures laid down in this book and the symptoms will be greatly alleviated. Vaginal injections of hot water are highly beneficial.

IN THE CASE OF BILIOUSNESS a plain, light diet with plenty of acid fruits, avoiding *fats* and *sweets*, will ameliorate if not remove it.

Don't force the appetite. Let *hunger* demand food. Take, before rising, a cup of hot water, hot lemonade, bran gruel, rice or barley water. Or what is probably better than any other drink for this purpose, coffee made from browned wheat or corn. Depend for a time upon liquid food that can be taken up by absorbents.

The juice of lemons and other acid fruits assists in assimilating any excess of nutriment.

Hot fomentations in the region of the stomach and liver for an hour once or twice a day, followed by tepid bathing and hand friction will be found invaluable.

Instead of resorting to cathartic drugs, which is a prevalent custom, let me earnestly impress the value of warm or hot enemas.

To derive the greatest benefit, follow minutely these directions: Place two or three quarts of soft water as warm as can be taken in a Fountain Syringe. A tablespoonful of salt will make it more effective. Suspend the syringe as high as the hose will allow. Lie upon the right side with knees flexed. Introduce the long rectal tube, or what is better for many, the vaginal tube far enough in the rectum to pass the internal sphincter muscle. It ought to enter three or four inches. Let the water pass in the bowels slowly, having them manipulated upward by an attendant, especially making passes up the right side. This causes the water to pass through the ileo-cœcal valve from the colon to the small intestines. Once in the latter it is taken up by the capillaries of the portal vein and more or less conveyed to the liver. This stimulates a secretion of bile and it is not unusual for five or six free evacuations to follow. Quite as free as an active purgative without any poisonous results of the drug. This enema should be retained from twenty minutes to half an hour It is also much more effective to be preceded by the use of a

fomentation over the liver. This injection is a valuable remedial agent both in acute and chronic difficulties. By its use in sick headache, billious colic, congestions in the stomach or abdominal viscera, the physician's visit and fee will often be saved.

The exercises recommended in Chap. V for constipation are invaluable for biliousness. Before closing this chapter let me repeat and emphasize, *don't force yourself to eat.* If food does not digest and there is no appetite it will do more harm than good.

Tradition and prejudice have all conspired to so engrave in your being that you must not only eat, but *stuff*, because you are eating for two, that both you and your friends think food *must* be taken at all hazards. So, what is your custom? You rise in the morning sick and disgusted. The very *smell* of food is intolerable. Still you eat at the table instead of getting away from it, and eat probably beefsteak and hot bread, washed down by a cup of coffee. Of course you must take what is most nourishing!

These are scarcely swallowed until you have proofs that that much provision is wasted.

By nine o'clock you make another attempt. You go to the pantry, find some cold chicken, a piece of lemon pie, and a pickle. But no, the stomach refuses these. At eleven o'clock a confidential friend calls. She commiserates you, and knows both you and the fetus will starve. She goes to her own larder, brings you a piece of pound cake, some custard and jelly; possibly, a piece of mince pie. Do

these share the same fate? Perhaps not. Her cheery laugh and neighborly sympathy, and the more propitious time of day makes it possible for this to be retained. But pause, my friend. Has the blood received the best nutriment for building a healthy organism for yourself or child?

Very little if any extra food is essential to nourish the fetus, especially the first few weeks of pregnancy. The total average increase of weight is less than one half an ounce a day, and one fourth of this would be an approximate estimate for the first three months. It can readily be seen that simply the suppression of the menses would give nearly, if not quite, all the extra nutriment for the first few weeks at least. It is far more necessary to select appropriate food, and to secure proper conditions for assimilation, than to increase the quantity.

CHAPTER V.

CONSTIPATION.

Constipation of the bowels is not only a frequent attendant upon pregnancy,but is a common ailment both of men and women. From year to year this symptom is on the increase, until fully nine tenths of the American women and one half of the men are afflicted with it.

Every person should have a free, soluble, satisfactory evacuation of the bowels daily. In pregnancy especially, *not for one day* should constipation be allowed.

Constipation is usually the first notice of bodily derangement, and may be the precursor of a chronic state of ill health. The approach, too, of this affection may be insiduous, existing when the subject is not aware of it. The evacuation may be regular but not sufficiently free and copious, compatible with health.

Any torpidity of the bowels results in retention of residual matter which becomes reabsorbed into the system acting as a foreign and poisonous substance. Other organs of elimination must, on this account, be overtaxed in the vain attempt to overcome the obstruction.

The urine becomes thick, turbid and high colored, if not offensive. The skin emits an offensive

odor and sooner or later becomes dry and scaly. The surface, from obstruction of the pores and venous capillaries, is alternately hot and cold, making the person sensitive to drafts and changes in temperature. The lungs must do double duty and the breath is loaded with offensive exhalations. Here is the beginning of most cases of catarrh, bronchitis and phthisis. Indeed, there is no disease of the human organism which may not be traced to constipation.

What are the principal causes of constipation?

Mainly sedentary habits, errors in diet, overtaxed brains, the use of cathartics, and in women *errors in dress.*

Many persons, even some authors upon the subject, consider that constipation is the result of torpidity of the liver only, causing a lack of bile furnished for diluent purposes. While this is frequently the case, still the pancreatic juice as well as the secretions peculiar to the intestines may be diminished, causing a lack of moisture in the excrement. There may, too, be lack of bulk in the residual matter to be acted upon by the fluids and impelled by the muscular coats of the intestines; which, in their turn may want power to perform their peculiar function. In a *sedentary life* the weakness of these muscles is enhanced. Respiratory power too is lacking. All processes of digestion depend upon deep breathing, which stimulates action in the abdominal viscera. Any exercise that tones or develops the involuntary muscles of breathing is an incalculable adjuvant to all

the functions of the body. The person of sedentary habits not only loses the advantage of exercise but is usually engaged in some occupation that gives great strain upon the nervous organization. This takes away the nerve stimulant so essential to assimilative processes. Dr. James H. Jackson in his admirable treatise upon constipation, in speaking of the effects of *occupation*, says:

"It is not the man or woman who lives regularly, eats temperately, and exercises the brain moderately or even severely, if the habits are correct, and sufficient out-door air and exercise are had to oxygenize the blood and keep up muscular tone; it is not the muscle-worker, the agriculturist, the mechanic, the machinist; it is not the maid of all work, as a general thing. It is the brain worker—the lawyer, merchant, doctor, banker, minister, teacher; it is the man who sits in his office or works in his store or shop in poor air and light, having little or no muscular exercise, who constantly thinks, is anxious, worried, careworn, a victim of the intense competition and excitement which modern business life imposes; it is the wife and mother who lives in the house all day, who is continually worried by household cares and anxieties, who is *socially* taxed and excited; it is she who idles away her time, passing it in in-door indolence, who dresses unphysiologically, eats badly, feeds upon sensational literature, and lives under the reign of her emotional and passional nature; it is the poor factory girl or seamstress plodding away through weary days, in stifling air and or

starvation diet, as of baker's bread and tea, debarred from all out-door recreation; or the school teacher who barely earns her living, though she works brain and nerves, almost daily, to the point of exhaustion. In these classes, subject to unphysiological habits of work, want of recreation, unfavorable surroundings, irregularity in eating, sleeping, etc.—more from lack of knowledge than from necessity—are found the victims."

"Improper food, prominent in the causes of constipation, poisons rather than nourishes the body, inducing congestion of the alimentary canal by the irritation set up."

Highly seasoned food and stimulating drinks excite extra secretions when first taken, but the reaction or secondary effect of the overstrain is torpor, and consequently absence of secretion. Notably, too, we have the same effect from aperient drugs. Even the too free and constant use of salt causes a dryness of the intestinal canal, probably from the fact of its stimulating power. Nature daily attests this statement by the demand for drink after partaking of salted meats, fish, etc.

Food that is too concentrated, not affording *residuum* in proportion to nutriment, proves constipating.

Food lacking in elements of nerve nutrition is followed by a like result.

Foods that are too concentrated are usually those that are highly carbonaceous, notably *fats* and *sweets*, as well as those abounding in starch. In these the "insufficient residue fails to furnish the

needful volume to fecal matter." The absence of water, too, furnished by vegetables and fruits, causes a dryness of the contents of the intestinal canal, which of itself is an impediment to their onward passage through the bowels."

Of these carbonaceous foods, pastry, cakes, hot bread and fine flour bread stand prominent. As elsewhere stated hot breads, starch and all of the fats do not digest in the acid fluid of the stomach.

Passing into the duodenum the alkaline bile and pancreatic juice emulsify and liquify them. If the quantity of these substances taken be too great there will be much the same result as the soap-maker gets when he puts in his kettle too much fat for his lye. The substances are not dissolved, and can not be taken up by the villi of the intestines for nutrition, and is a concentrated mass lacking residuum that passes into the excrement.

The prevalent, if not foolish fashion of using only bolted or fine white flour for bread, which gives a flour abounding in starch and lacking in gluten, is largely the cause of indigestion and constipation. The gluten lies next the bran and contains the nitrates and phosphates which digest in the stomach and feed muscles, brain and nerves, while the bran itself furnishes residuum for fecal matter.

Another factor especially answerable for the recent increase of constipation, is the prevalent use of baking powders. This makes a beautiful, light, friable and delicious bread, requiring but little time or care in its preparation. If adulterated

with alum, astringent effects follow. In a pure powder, however, we have an acid and an alkali, which after chemical union has taken place, leaves a residual salt that has a depressing influence upon the nervous system. A sensitive person not accustomed to the use of bread from yeast powder, even if eaten cold, will in a few hours feel depressing influences, both upon mind and body. Dr. Beaumont, who had the privilege of watching the process of digestion in the stomach of Alexis St. Martin, tells us that "hot bread does not dissolve in the fluids of the stomach." This is owing to the presence of carbonic gas in the bread, and to the fact that it is not friable, consequently becomes an insoluble doughy mass that can not be permeated by the gastric fluid. Of course this passes in this state into the intestines, and much of it must become waste material. It is estimated that 8,000,000 lbs. of baking powder is used annually in the United States alone. What wonder is it that dyspepsia and constipation are on the increase!

Fat meats, dried and salted meats, are constipating. Fresh poultry has a like effect. There are few persons who do not remember the old time practice of arresting the action of a cathartic drug by the use of a chicken broth.

Eggs and milk are constipating to many. The latter is especially so if boiled or if the two articles are combined in custards, puddings, etc. Among the vegetables, beans are constipating. This, however, is largely the result of the mode of preparation. They are not sufficiently cooked and the fat

incorporated with them renders them indigestible.

Potatoes, especially if prepared with butter or grease, have a like effect. Cheese is constipating to many. Also chocolate and cocoa.

Of the fruits, blackberries and raspberries are constipating, especially if the seeds are taken. More than any other article of diet, these induce and aggravate hemorrhoids.

THE ERRORS IN DRESS conducive to torpid bowels, are lack of covering to the extremities, and excess of clothing in the abdominal region, thus favoring congestion of the vital organs. Garments that are tight and improperly supported restrict respiration, infringe upon all the digestive organs, and impede the circulation.

When women are freed from the trammels of dress, they will have taken a long stride toward freedom from invalidism. Is it Utopian to hope that it will also aid in giving them political and social freedom as well?

A very common means taken to overcome constipation only increases it and renders it less amenable to common sense treatment, and that is the prevalent use of *cathartic drugs.*

"They all depend for effect upon a certain quality they possess of exciting secretion and peristaltic activity. Of course they do this through the nervous system, few if any of them being mechanical in their action, but accomplishing their results by stimulating the nervous system to extra effort. In doing this, they necessarily exhaust the source of supply; for the tendency of all stimulation is to

induce exhaustion as the consequence of unnatural exhibitions of nervous force. Persons using these so-called remedies—laxatives, cathartics, and purgatives—thus securing the movements of the bowels in the present, find that after their use, it is more difficult to secure natural passages, and that the doses must be increased to produce any effect. Meantime the continued use of these drugs not only exhausts nervous force, but often creates inflammation of mucous surfaces, disturbing digestion and poisoning the blood."

This is more especially true of the saline cathartics.

Pregnancy aggravates or causes constipation, by reflex nervous action from an irritable uterus or mechanically by pressure of fetus upon the colon or rectum.

Other causes of this difficulty will be thought of—such as excessive exercise, violent emotions, as anger, grief, etc., wounds in any part of the body, irregularity in meals, late suppers, eating between meals, etc., etc. Practically it is not essential to enter into details in regard to them. No matter what the cause all will experience benefit in adhering to the following hints upon the

TREATMENT OF CONSTIPATION.—First ascertain the cause or causes, and remove them. One might as well expect to cure a burn, and keep pouring scalding water upon it as to cure torpid bowels if the cause remains.

Every person should establish the habit of

"REGULARITY IN SECURING EVACUATIONS.—The

nervous system acts under the law of periodicity to a large degree in controlling the functional operations of the body. This tendency should not only be generally heeded, but utilized in regulating the bowels. A little intelligent care will generally secure a call for defecation at a specified time, which may be established to suit convenience, and which once established, should not be allowed to pass except for most urgent reasons. The number of evacuations per day will vary with the quality and amount of food consumed, and the avocation and temperament of the person. If two evacuations each day is the rule, then one should be after breakfast and the second shortly before the regular retiring hour for the night. If only one evacuation each day is the habit of the person, then if convenient, let it be the hour before retiring, unless a satisfactory habit is already fixed at some other hour. There are few things that promote good, sound, refreshing sleep, like a thorough emptying of the bowels before going to bed. The chances for local congestion and irritation are thus greatly diminished; besides, irritation of brain, reflex in character, causing wakefulness or dreamy sleep, is much less liable to occur than when the rectum or lower portion of the colon contains fecal matter. If one would *prevent* constipation and its evils, this practice should be heeded; and if one would *cure* constipation, it should be enforced in connection with any other necessary measures, as follows: Go to the closet at the appointed hour, sit for a few minutes, gently straining to effect a passage. The

practice of forcing an evacuation by severe muscular effort is all wrong, and should never be indulged. Far better take an enema of water if necessary. The practice of sitting long at stool is also to be condemned. The bowels may be made lazy in this way, and it leads to waste of time and to hemorrhoids. If not successful, go till the next day at the stated hour if you comfortably can; then try again, and if you do not succeed, take an enema of water sufficient to produce the desired movement. The next day repeat this effort at the given time, and so continue."

Other simple measures will overcome constipation, especially if of recent origin or of mild form. Drinking one or two glasses of cold soft water before breakfast is often sufficient. Some eat ice for the same purpose. These are diluents, besides acting upon the nerves producing contractile effects of the muscular coats of the digestive tract.

Eating a raw apple or orange before breakfast with others is sufficient. Stirring a table-spoonful of bran in a glass of water and drink, is very efficacious for some. A lady in Iowa had had very obstinate constipation for years. Allopathic and Homeopathic remedies had no effect. Exercise and the strictest hygienic living seemed equally of no avail. If, however, before eating her breakfast, she would eat half a cup of bran stirred in water or milk, the desired result would be obtained. This affords *residuum* for the alimentary canal, as well as mechanical stimulus to the mucous coat.

In long standing, obstinate cases, these simple

remedies will not suffice. There must be an entire and radical change in diet as well as other rational measures used to overcome the conditions. First, live largely upon food made from the flour of the *entire wheat.* In this, the gluten which lies next the bran is preserved—which contains the nitrates that feed muscular tissues and the mineral product that nourishes and sustains the nervous system. "For constipation, this flour is the natural remedy and preventive, as it gives the ganglionic nerve centers their proper food, and hence enables them to pre side over the functions of digestion." Fine Flour of the Entire Wheat; Franklin Mill Co., Lockport, N. Y., fulfills these conditions, and is "one of the noblest additions to the foods of the world." The grain is denuded of the outside, silicious bark and then ground into a fine flour, and all the elements of the grain are preserved. This is not the ordinary Graham flour that contains the indigestible covering of the grain.

Wheat more than any other article of food furnishes all the elements and in the right proportion required to nourish the body. In bolting the flour to make fine white flour, four fifths of the gluten, the very most nutritious part of the grain, is taken out to be fed to cows and hogs.

Dr. Ephraim Cutter, of Harvard, in an able and illustrated article on "Cereal Foods" in the *American Medical Weekly* says: "The gluten of cereal foods is their nitrogenized element, the element on which depends their life-sustaining value, and this element is, in the white and *foolishly fashionable*

flour, almost entirely removed; while the starch, the inferior element, is left behind and constitutes the entire bulk and inferior nutriment of such flours. To use flour from which the gluten (in the bran) has been removed is *almost criminal.* That it is foolish and needless needs no further demonstration. In sickness, and in the sickness of infants especially, starch is highly injurious, while gluten is life-giving and restorative." In the valuable article from which the above extract is taken, is given microscopical examinations of forty-four kinds of flour and health foods. Of the Franklin Mills Co. flour he says: "The field is filled with gluten cells. Repeated examinations prove this to be the *best flour* examined." One can readily see, being more nutritious in point of economy, even, this flour is invaluable. It is preferable for making anything that is ordinarily made from white flour. Makes better pie crust, better cake, and griddle-cakes, and for toast, pudding and gems, has no comparison with other flour. Still further, what will, with many, be considered the best argument for its use, the taste of this flour is sweeter and more "nutty." Once accustomed to the "Flour of the Entire Wheat," white flour seems tasteless and insipid, and none will return to its use from choice. Hundreds of cases within my own knowledge attest to this fact.

CRACKED OR ROLLED WHEAT stands with or above the entire wheat flour, in its value to overcome torpid bowels. Often by making no other change in diet, but adding this one article properly cooked, constipation will be entirely overcome. I

have been recommending it for thirty years with uniform satisfactory result. In a family with whom I stayed while lecturing in southern Illinois, was a bright boy three years of age. The next morning after my arrival, the mother entered my room, her face the picture of despair.

"Can you, doctor, tell me anything I can do for Charlie? For near twelve months he has not had a natural passage. Strong cathartics have ceased to have any effect, and he has a terror of enemas."

I noticed the night previous, the child ate a late supper, consisting entirely of cold mutton and sweet cake. I wondered then if it was possible he could feed on such food and be well. I said to her, "Have you tried diet?"

"Only to give him figs, and these he dislikes. I don't know what to give him."

Alas, how many mothers do not know!

"Do not you ever use Graham bread?"

"None of us like it."

"Have you ever given him cracked wheat?"

"I never heard of it."

"Send and get a package. I will show you how to cook it, and we will all lunch upon it."

Charlie ate of it, not freely, for his lunch and supper. The following day he had two natural, easy evacuations. I counseled her to give him less meat and cake, have him eat the wheat at least once a day, and partake of more fruit. Months afterward she reported no return of the constipation. Oftentimes it is the simple things that are the most effectual.

FEAST ON FRUITS! Would that this could be a motto upon the wall of every dining room in the land! Next to the whole of the wheat, fruit is the best laxative to the bowels.

Dr. Jackson says: "I advise the use of fruit in the morning if only taken once a day; but I heartily approve of its forming a part of every meal, though I strongly condemn the indulgence in fruit between meals."

I coincide with him and *emphasize* by saying *feast on fruit freely!* Don't stint the supply to *sauce* dishes. Use large saucers and not only once full but twice or thrice full at every meal. Acid fruits are preferable. They are the staple, and properly prepared, one never tires of them. The acid of the fruit is largely oxygen and unites with the carbon of other food, in this way assists in digestion. For constipation some of the dried fruits well cooked are preferable. Of these peaches, plums, prunes, apricots, etc., that are rich in hydrocyanic acid, are the best. Do not purchase an inferior article. Get the best, stew several hours, use but little sugar and that when first put on the stove. If I could impress upon women the value of abundance of fruit in diet so that they never would prepare a meal without it, no more than without bread, I know the results would be so satisfactory that they would always hold my name in grateful memory. Do not tell me it is expensive and you can not afford it. Take half the money you put in meat, butter and lard and purchase fruit. You will get interest and principal returned in healthful

conditions for yourself, in rosy, buoyant children, in happy dispositions and noticeable absence of doctor's fees.

Most of the garden vegetables are valuable in overcoming constipation. Rhubarb, onions, tomatoes, asparagus, green peas, squash, cauliflower, green corn, etc., etc., are good. Should be well cooked without butter. They furnish water which is cooling and laxative, and bulk that increases the residual matter of the excrement. Potatoes and beans should be avoided. The mucous surfaces have been stimulated and irritated by high seasoned and concentrated food. The fruits and vegetables are cooling, besides furnishing by bulk, stimuli for peristaltic action of the muscles.

Avoid strong tea, especially if steeped a long time. Tanic acid is developed, giving an astringent effect. *Coffee*, especially the higher grades, in the occasional use, stimulates the bowels to action, but the *habit* of taking strong coffee gives the secondary effect, and torpidity is the result.

It may be a wise provision of nature that the poorer and cheaper the coffee, the less deleterious in its character. Java and Mocha may really be poisonous to an individual, while Rio is quite inoffensive. Most of the adulterations of coffee are harmless. One "feasting on fruits freely" will not feel the need of any drink at meals, and in *total abstinence* great gain will be made in overcoming symptoms of indigestion.

Table of Foods.

LAXATIVE.	CONSTIPATING.
Rolled and cracked wheat.	Hot bread.
Bread, gems, biscuit, griddle cakes, crackers and mush from flour of the entire wheat.	White bread.
	White crackers.
Granula.	Pastry made of white flour and lard.
Bran gruel and jelly.	Bread, rolls, dumplings, etc., made with baking powders.
Fruit puddings.	
Fruit pies.	Cake.
All fresh acid fruits, including tropical fruits, like bananas, oranges, lemons, etc.	All custard puddings.
	Salted meats.
Dried figs.	Salted fish.
French prunes and prunellas eaten raw.	Dried meats.
	Dried fish.
Stewed dried fruits, containing hydrocyanic acid, of these peaches, plums and prunes are best.	Smoked meats.
	Poultry.
	Cheese.
Rhubarb.	Chocolate.
Onions.	Cocoa.
Celery.	Boiled milk.
Tomatoes.	Tea.
Cabbage, *raw*.	Coffee.
Corn.	Coffee made from wheat, corn, barley, toast, etc.
Squash.	Beans.
Cauliflower.	Potatoes.
Green peas.	Farina.
Spinnach.	Sago.
Beets, etc.	Starch.
Liver.	Tapioca.
Oysters.	Rice.
Wild game.	

Lean fresh meats, fresh fish, eggs, raw milk, oatmeal, barley, buckwheat, and corn meal have no marked action either way, unless in exceptional cases.

Next in importance to having proper food to overcome constipation is appropriate and sufficient *exercise.* General and habitual exercise is essential to promote good circulation, a healthy nervous tone, complete respiration whereby combustion of the carbonates is possible, and also power and elasticity of the muscles. The stomach, liver, and indeed, all the alimentary tract require also local exercise in order that a healthy standard may be gained and maintained.

The worm-like or peristaltic action of the intestines is produced by the contraction of the muscular coat. It is by this action that the contents of the canal are carried forward. Is it not plain if exercise can develop the muscles of the arm or leg it can give tone and power to these muscles as well? Dr. Taylor in "Health by Exercise", says: "It is a curious and most interesting fact that children and young animals, whose desire for motion is inherent, are inclined chiefly to those kinds of exercise, and to assume those positions that necessarily affect the abdominal contents.

"It is in such exercises as *climbing*, *rolling*, *crawling*, *jumping* and *playing* generally that these contents are most disturbed. We are convinced that these are the means that nature prescribes to secure healthful development and power in these most essential parts of the body. As if to insure these healthful effects, nature has ordained that by *respiration*, as an efficient and constant means, these motions shall be secured to the alimentary canal. The abdominal contents may be considered as being

located between two great muscular organs, the diaphragm and abdominal walls.

These muscles act conjointly and *simultaneously* and upon all the included parts, causing them to play incessantly upon each, and subjecting them to a constant and gentle pressure." *Deep breathing*, using the diaphragm and abdominal muscles, of which the majority of women have no practical knowledge, gives the most efficient exercise to the digestive tract. The A, B, C of health lessons, is in *deep natural respiration.* The lungs must be *filled to the bottom*, and the involuntary muscles of breathing brought into action. Animals and children have this natural breathing. Men and women lose it from lack of exercise, and constrictions of dress. *Longevity* and *power of endurance depend mainly upon lung capacity.* The most eminent vocal teacher of this country asserted that in breathing "the main action should be at the waist and below the waist."

For constipation, those exercises must be taken that develop the diaphragm and other respiratory muscles, that strengthen the muscles of the abdomen and trunk as well as the muscular tissue of the intestines themselves.

The following are a few

SPECIAL EXERCISES FOR CONSTIPATION.

1. Lying upon the back, with abdomen relaxed, have bowels thoroughly kneaded; make rapid gentle movements with balls of the fingers and palm of the hands, not the knuckles.

2. Same position, move diaphragm up and down without breathing. This requires a little experience and can be aided at first by external pressure of the hand, following the motion. This is one of the most desirable for the object required, and must not be abandoned because of a few failures. The diaphragm can be taught to obey the will.

3. Reclining on back on a spring bed; flex the knees, inflate the lungs; move hips up and down with the springs twenty or thirty times. This can be performed by even quite a weak person, and is beneficial to the strongest. Brings into action moderately a great variety of muscles.

4. Flex the knees and elevate the hips, resting the body on shoulders and feet. Move slowly up and down ten times. Hold to count ten and then rest to count the same. Lungs with this had better be inflated. No other exercise is more valuable for developing deep breathing. Sick and well would be benefited by taking this exercise morning and night.

5. Stand with toes at angle of 45°, knees together, hands crossed upon the back. Bend the knees. The body is kept perpendicular and slowly descends until setting upon the heels. Then slowly straightened, keeping trunk in same position. Count four with each movement, and from four to ten with the rest. This is a severe exercise, and needs to be taken cautiously at first by the invalid. There is no better, however, for torpid bowels.

6. Stand as before. Palm of hands placed over lower ribs, fingers forward. Inhale through the

nostrils and expand the waist as if to burst the belt. Expel the breath slowly and assist it by pressing with the palms against the ribs.

7. Same position; inhale through the nostrils; retain to count twenty; expel through the mouth as whispering the syllable Hoo! to a person forty feet away.

8. Sit on the floor; limbs horizontal and parallel; lungs inflated; hands joined over the head; move backward and forward slowly as far as possible; rest; same position, move sideways.

9. Horizontal position on back; hands clasped over the head; raise both feet and head at same time making the body assume a curved shape; hold to count ten; repeat this only five or six times at first. This is a powerful exercise, affecting the abdominal viscera and general circulation.

10. Lie in the horizontal position; hands clasped over the head, the head and heels only, resting on supports, as two stools, while the body is quite free; hold in this position from five to ten minutes, according to strength, practicing waist breathing; at first one might place the stools nearer together.

11. Kneel with one leg, place the other forward with the foot firm upon the floor; arms parallel, stretched upward to the side of the head; move backward and forward slowly, while counting four to each movement and for rest; repeat three or four times and change to the other knee. This is a good exercise for hips, groin and lower abdomen.

12. Upon both knees wide apart, hands on hips,

fingers forward. Move quickly from right to left and back as far as possible. This is a good exercise for liver, spleen and muscles of the side.

Nos. 5, 10, 11 and 12 should not be attempted by a weak person until the balance have been practiced at least a month, and then begin with caution. All these exercises should be taken in a loose wrapper. There must be no restraint upon any part of the body. One walking or working need not be deterred from taking them. They bring into action unused muscles, and consequently rest those that have been overworked. I knew a lady who did much of the heavy labor of a large greenhouse. She never retired without performing similar gymnastics to the above. She claimed they rested her by the derivative effect, and the sleep that followed was more satisfactory.

Women can not expect to successfully and permanently overcome constipation, if the organs are in any way restricted by dress. Nature's laws are inexorable, and the penalty of violation must be paid. See Chap. VII.

Do not resort to drugs even for temporary relief. Most all aperient medicines act through the nervous system, stimulating the secretions to increased flow. All stimulation of the nervous system is followed by a corresponding or increased depression. The consequence is the torpor of the bowels is worse after a few days instead of better. If people would only note *real* results, instead of *seeming* ones, very little medicine would be taken, at least such as only have palliating effects.

In constipation until permanent benefits can be obtained by the means proposed, if it is necessary to have temporary relief resort to enemas in preference to drugs. A small quantity of tepid water will usually remove the contents of the rectum. If a thorough evacuation is desired, follow directions on page 34.

Retaining a pint of warm water over night has proved beneficial in many cases. Very obstinate impaction in the rectum can be relieved by injecting from one to two ounces of linseed oil in the rectum, and retain over night. Use a child's rubber piston syringe for this purpose.

Going entirely without supper, or adopting the *two meal* system has proved beneficial in obstinate cases where all other means have failed.

The frequency and time of eating is a great matter of habit. By constant feeding, one can get himself to crave food five or six times a day, while the system can be well and satisfactorily nourished upon one meal a day.

Brain workers especially, will find great advantage in taxing the alimentary processes less frequently. Once deciding to do without supper, if there is at the usual meal time, a craving for food, it can be satisfied by taking a cup of hot water, hot lemonade or some fruit juice. This course must be faithfully pursued weeks before full result can be determined.

Finally let me urge *thoroughness* and *persistence* in the means laid down to overcome torpid bowels. Do not expect a miracle, but know by giving prop-

er conditions, normal action will surely be restored, consequently great advantages gained in every direction. The functions of the bowels, perfectly normal, give all complaints of the system a fair chance to *cure themselves.*

CHAPTER VI.

HEADACHE.

Headache in pregnancy is caused by uterine irritation, derangement in digestion, or both combined.

If caused by uterine irritation, there will be burning pain in the top of the head or at the base of the brain. With the latter there is great soreness, and the patient describes it as a *sore pain.* The pain, too, is constant and likely to affect both vision and memory. It usually increases toward evening, and is relieved by lying down.

For this, take warm sitz baths daily, apply hot fomentations to back of the head, and keep in a reclining position as much as possible.

Sick headache is a severe pain in the forehead and through the temples, accompanied by nausea and vomiting. The attacks are irregular in frequency and duration. The causes are indigestion, biliousness, constipation, fatigue, anxiety, etc. For prevention of the attacks the treatment of biliousness and constipation will be effectual. Rubbing, spatting, brushing and combing the head often wards off the pain. Large drafts of hot water, or hot lemonade, or salt and water may give relief. Put hot applications to the feet and fomentations upon the stomach. Also take a hot enema

of three quarts of water and two table spoons of salt.

One under any circumstances *ought to be ashamed to have sick headache.* A little *common sense* in the methods of living will do away with the causes.

TEA DRINKING as a habit has much to do in producing headaches. Tea is stimulating. One ever so weary, after drinking a cup of tea, feels as *good as new.* Is invigorated, hopeful, chatty and entertaining. The social cup of tea! Has it really restored wasted tissues? Is it a genuine nerve feeder? Or does it stimulate the native forces to greater action? Is it like a whip to the fagged horse, spurring it on to more toil? Very little tea is appropriated to build up worn-out tissues. It gives false strength, and the effect is accumulative. Reaction causes headache. It is the penalty that follows over-wrought vitality.

"Dr. Gregg published an article in the *Homeopathic Quarterly* on tea as a cause of sick headache, worthy of the attention of those who suffer with, this common malady. The doctor there alleges that this beverage is the cause of more cases of this disease than any other, if not than all other causes put together, and gives a number of instances where, after leaving off its use, persons who had previously been afflicted were exempt from further attacks. One evidence the doctor gives of the injurious effect of this agent is the fact that tea drinkers are liable to have headaches if they omit its use at the regular times of taking it, and the cessation of the pain on again resuming the cups.

This latter with many other facts contained in the article have often been observed, not only on myself but on others, for I had inherited the disease from my mother. It had been the plague of her life as well as my own. We had both been not excessive but regular tea-drinkers; and although she lived to be over eighty years of age, she was never exempt from an attack of greater or less severity, for more than a few weeks at a time for a period of nearly or quite half a century. Knowing this fact and that from my earliest recollection I had been similarly affected, I was content when the pain returned, to relieve it with the appropriate remedies, with little hope or thought of ever being able to eradicate it. Some twenty years ago, I had abandoned the use of coffee and green teas, using only the black and Japan. Pork, pastry, spices, acids and most kinds of raw fruits were sure, if indulged in, to bring on an attack of my old trouble; and this weakness of the stomach seemed to be gradually on the increase, besides a train of nervous symptoms, such as sleeplessness, palpitation of the heart, unsteadiness of the hand when writing, etc., etc., gave me no little annoyance. After reading the article referred to, I concluded some three months ago, to use no more tea, substituting in its stead hot water with a little milk. The result for the first week or ten days was much as I had anticipated, being, during the whole of that time, scarcely ever free from headache. At length the pain became lighter and when it did return, was of short duration. My nervous symptoms grew less, palpita-

tion left entirely, my stomach became much stronger. I can now eat with impunity many things which for years had been sure to disagree. The headache now very rarely returns, and never with severity; besides within the past two months my weight has increased sixteen pounds."—*Medical Investigator.*

The very *worst sick headaches* can be cured by temperate living. A very delicate lady was subject to terrible attacks of sick headache, at least twice a month. They would last from twenty-four to forty-eight hours. Her sufferings were simply terrible. She had dyspepsia with grave uterine complications. She was liable to die in one of these attacks and could not get well at home. By my advice, she went to a hygienic institute where she could get baths, the best diet and proper attention.

After leaving home she never had a *severe* headache. Every attack was warded off and she returned not only thoroughly cured, but a convert to the belief that *fruits* and *grains* afford the best diet for health and longevity. One has not always the appliances or the determination (for long sickness weakens the will) to carry out a settled and desirable course of treatment at home. In such a case a well regulated hygienic institute should be sought.

Heartburn is acidity of the stomach; dependent upon the quality of food or the power of digestion. Avoid starchy foods, fats and meats. Avoid gravies. I knew a lady that always has extreme acidity after partaking of chicken or turkey

gravy, while nothing else has a similar effect. To remedy this, take the meals entirely without drinking. The gastric juice that dissolves the food is not secreted until the liquids have passed from the stomach by absorption. Anything that detones the stomach prevents it having power to perform both of these functions, consequently the food remains to foment and sour. If acidity is present, the gastric juice can be stimulated by eating a piece of burnt toast or taking pulverized charcoal. Some understanding this, make crackers containing charcoal. A few mouthfuls of these after the meal will answer the purpose. Avoid a variety at one meal. Choose such articles as experience has proved to be best assimilated. Do not take magnesia, lime, soda, or any other alkaline for this trouble. They injure the mucous coat of the stomach, and the difficulty is more likely to recur another day. Drinking copiously of warm water may be resorted to, if the burning is severe. This will cause vomiting and give relief. Abstain from food until the following day, and eat sparingly until the stomach has recovered a healthy tone.

Flatulence and colic arise from a failure of intestinal digestion. Many of the vegetables are inclined to cause flatulence. Beans, sweet potatoes, and cabbage most frequently. Corn meal, oat meal, and rolled wheat will produce flatulence, if not thoroughly cooked. All of these require more time in preparation than is usually given. Drinking hot water, warm water enemas or the fomenter over the stomach will give temporary relief.

Observe what articles of food cause the trouble and avoid them.

HEMORRHOIDS or piles are caused by imflammation of the rectum or pressure of the gravid uterus.

For the former in recent cases the following recipe will seldom fail to relieve:

℞ Fl. Ex. Hammamelis, ʒij.
Linseed oil, ʒij.

Mix.—Apply externally two or three times a day or inject with a small syringe.

Remember that piles are a local indication of a constitutional disturbance and local applications can only give temporary relief. The most obstinate cases can be overcome in time by correct living. The diet should be similar to that for constipation.

Dr. Shew says: "There is nothing in the world that will produce so great relief in piles as fasting. If the attack is severe, live a whole day or even two days, if necessary, upon pure, cold, soft water alone." I would substitute hot water and hot lemonade, followed several days with liquid food only. Of these *bran gruel* is the best. Tepid sitz baths and cold compresses are of great benefit.

EXCESSIVE SECRETION OF SALIVA is only another indication of indigestion and rarely troubles one who lives plainly. Drinking hot water will relieve it. Also holding very hot or very cold water, or pieces of ice in the mouth will give temporary relief. It rarely fails to disappear under the *fruit diet.* Eating a few almonds or a peach kernel after a

meal often produces desirable results. Indeed these are often valuable for indigestion.

GREEDY APPETITE is more to be feared than loss of appetite. "One is hungry all the time," complains she, "can not get enough to eat," is strong evidence there are morbid conditions. The system is likely to take on excess of fat, and becomes loaded with poisonous elements.

To fight an excessive appetite is the hardest battle of the pregnant woman. If convinced herself that overeating is injurious, her friends are delighted to see her *enjoy her food*, and furnish everything that pleases her taste, and she eats in season and out of season. She even "gets so hungry she can not sleep," and in the night partakes of a pantry feast. If the best conditions are sought for self and child, this morbid appetite must be overcome.

Observe religiously a few rules:

On no account eat between meals.

Partake mostly of fruits and vegetables.

Keep away from the odor of food.

Take plenty of outdoor exercise.

When a sense of hunger comes on, drink hot water, or hot lemonade. Have a *strong will* to conquer and the victory will be won.

LOSS OF APPETITE is seldom sufficiently persistent to occasion anxiety, unless accompanied by nausea, or constipation. [See Chapter V.] Usually it is nature's method of restoring normal conditions, and if *let alone completely* will right itself. One, however, is so imbued with the fear of not being nour-

ished that she *forces* herself to eat and hence thwarts nature. *If there is no appetite eat nothing*, for the food will not be digested. If in following this rule one feels a faintness or a "goneness" at the stomach, drink thin bran gruel hot, or a cup of wheat coffee. Wait for the next meal—if still there is no appetite pursue the same course.

Longings.—Many women all through pregnancy seem possessed to fill their systems with the vilest *trash*. They *must have* chalk, slate pencils, magnesia, starch, condiments, etc. Sometimes these longings are from an actual want in the system, then, again, morbid conditions crave what they feed upon. No one lives sufficiently natural to depend upon the instinct for food. Without knowing the case it would be hard to say if the fancy should be gratified. Hundreds, however, can testify, by adopting the diet laid down in this book, that the system is naturally fed, is fully nourished in all the elements, and one seldom suffers from craving demands. If the article desired is known to be injurious, like cloves, pickles, alcoholic stimulants, magnesia, starch, etc., it is better to overcome the desire. The juice of a lemon in hot water, a brisk walk, a ride, or a merry chat with a friend will dissipate the fancy. Do what is better, put the mind on something above physical desires. Commit a poem, learn a song, paint a picture, make a garment, or do a good, generous deed. If possible rise above appetite.

The symptoms of pregnancy treated thus far are

usually the result of some disturbance in the functions of alimentation.

The few remaining to be considered also would scarcely ever occur, if the entire system was rightly nourished. Still not being immediately the result of failure in the digestive act they merit special attention.

Neuralgia and neuralgic toothache are common and distressing symptoms during gestation.

The child of the forest, the peasant girl of Europe, and the dusky cotton picker of the South probably have no conception of a neuralgic pain.

Our *cultured* civilization incurs the infraction of so many physical laws that it is difficult to find the cause of any disease. Neuralgia is not unfrequently the constant companion of the bilious, *overfed*, or perhaps, I should say, the carbonaceously fed, subject. Too much fuel and too little oxygen!

Lack of nerve food is another cause. The phosphates and other saline elements are insufficient. Also exhausted and weakened nerves making an effort to recuperate give the possessor great suffering. The mother, who already has several children, wearied and worried by their many wants, whose domestic cares are a continual burden, who has no surcease from the sexual relation, is the one likely to suffer from neuralgia. Often the pregnant woman strains every nerve that her house be put and kept in order. She spends anxious days and sleepless nights in weary watching over a sick child or husband. Suffering must surely follow. The tonics, stimulants and opiates prescribed by most

physicians cause worse symptoms than the original trouble. Nature demands only rest. The relief obtained by drugs is at too great a sacrifice of vital force. Nearly all that take opiates attest that on the following day sufferings ensue from nausea, headache, loss of appetite, constipation, etc.

In most cases hot applications will give sure relief. Why is it, that simple measures are the last thought of? Use the fomenter locally, if that is not sufficient, give a full hot bath or the thermal bath. See Chap. VIII.

Human magnetism is superior to all other agents for neuralgia. Nearly every family has some member that possesses the gift of healing by the "laying on of hands" in a greater or less degree. The spine and extremities should be manipulated and then the affected part. The patient will fall into a restful sleep, awaken refreshed if not cured and have no poisonous drugs to be eliminated from the system.

Some years ago I was called late at night to a lady who for days had suffered untold agony from facial neuralgia. Her face was greatly swollen and the pain was so intense she had nearly lost her reason. An eminent physician, under the popular delusion that it was *malaria*, had prescribed quinine. As she had protested against its internal administration, he ordered her bathed in an unction of quinine and cosmoline. Each day upon finding the patient worse, he increased the frequency of the quinine bath.

Upon entering the room, she seized my hand

with a vise-like grip and said: "Doctor, give me something or I must die of this agony!"

I assured her that she should have help. Turning to her husband, I said: "Bring me a wash-bowl with hot water and ammonia in it. Put four bricks in the furnace as soon as you can."

Quickly the whole surface was cleansed of the obstruction to the pores. The heated bricks were wrapped in wet cloths and one placed each side of her face. Friction was applied to the extremities, and in less than half an hour after I entered the house the anxious husband and friends were rejoiced to see the patient enjoying a restful sleep. She made a speedy recovery. There are few cases of neuralgia that can not be relieved by this, or similar means. "Will not the pain return?" Perhaps, but not as likely as where the nervous sensibility has been destroyed with drugs.

If the mother has facial neuralgia or toothache and can not be spared from family cares to take the needful bath and rest, or can not get magnetic treatment, temporary relief can be obtained by bathing the affected part in the tincture of aconite. This is rarely followed by unpleasant results, needs to be used cautiously and only externally.

Cramps in the limbs are occasioned by pressure upon the crural and sciatic nerves. Frequently are the direct result of pressure from clothing.

For temporary relief lie flat upon the back, head and shoulders low and hips elevated. Apply hand friction to the limbs and back.

The only permanent relief is to take the exercises that will expand the ribs and walls of the abdomen, thus giving more room for fetal housekeeping.

SWELLING OF THE EXTREMITIES is caused from biliousness and sluggish circulation. Oftentimes the venous circulation is so deficient that *varicose* veins are the result. Sometimes these swell and form knots and tumors of great size. I recall a patient who had a varicose tumor as large as the doubled hand situated upon the labia. These knotted veins give great distress and cause much anxiety. I have never known of their annoying a person who had adopted the *fruit diet* and other hygienic measures.

Temporary relief can be obtained by bathing the limbs in cold water, putting on a roller bandage made of strips of rubber. This should be from an inch and a half to two inches wide. It must be put on smoothly and equably. Begin at the toes, lap the edges about half an inch, make reverses to prevent creases and extend above the swelled veins.

PAIN IN THE SIDE, either right or left, may be from the same cause as cramps or pains in the limbs. Put on hot fomentations and follow the directions for cramps. These pains may extend to the abdomen, and may be neuralgic in their character or may assume an intermittent form, producing what is called *false pains*. They often simulate labor pains so closely as to deceive patient and friends. To distinguish them, place the hand upon the abdomen during the pain. If contraction of the uterus is felt, there is true labor; but if there is

no change in the walls, they are false pains. Frequent warm sitz baths will give relief.

For RIGIDITY OF THE INTEGUMENT of the abdomen, bathe in hot water, then rub in olive butter or cosmoline. This symptom is not likely to be troublesome if there is good muscular development.

INSOMNIA is the result of reflex nervous action from stomach or uterus. The causes must be removed. Bathing feet and legs in cold water or a sitz-bath, temperature 90 degrees, followed by thorough friction will usually give sound, refreshing sleep. Try changing from the customary bed, to a lounge or another apartment. Hand magnetism or the magnetic cap will afford relief to many. Tea and coffee often produce wakefulness, and should be omitted.

In place of the evening meal take a cup of hot water or wheat coffee. When all other means are without avail, this abstinence seldom fails to secure sound, refreshing sleep that is truly "Nature's sweet restorer." Avoid opiates. Mother and child suffer less from insomnia itself than from the effects of drugs that produce sleep by their anodyne effects. By these the processes of nature are disturbed and all the functions of the body deranged.

LEUCORRHEA.—A thin, milky, greenish or watery discharge is not unfrequently a great annoyance in pregnancy, and a drain upon the vitality. It is usually the result of inflammation in the uterus, and vagina or an irritation set up by hardened feces in

the rectum. Leucorrhea is not a disease, but is simply the symptom of a disease as the cough or sputa are symptoms of bronchitis. This is nature's effort to throw off inflammation. She fails in the attempt and such a condition is produced that the discharge becomes chronic. Do not use astringents for leucorrhea. They only palliate by drying the secretion for a short time. When the remedy is omitted the discharge returns or more grave symptoms appear. The cause should be treated. For many cases good results will follow the use of hot injections of carbolic soap suds. Two hours a day wear cotton in the vagina saturated with glycerine. This temporarily increases the discharge, but aids to remove irritation. Like other symptoms this yields to thorough hygienic measures.

Pruritus of the valve often becomes very troublesome. May be the result of a sanious leucorrhea, excessive dryness, inflammation or eruptions. For the first cause treat accordingly. For inflammation of the labia apply cloths in a cold lotion of borax, one teaspoonful to a quart of water. For dryness apply glycerine upon cotton. There are few eruptions, accompanied by great pruritus, that will not be relieved by the following lotion:

℞ Tincture Lobelia, " Benzoin } ℥ij
Glycerine, Alcohol } a a ℥j
Add benzoin last slowly.

Apply upon absorbent cotton or oakum. Cleanse the part frequently with carbolic soap suds.

Dr. Show says: "For pruritus the sitz-bath should be taken as often as the symptoms occur, and is a sovereign remedy."

In subsequent chapters full and special directions are given for hygienic treatment of pregnancy. Consequently it is not deemed necessary to dwell upon all the diseases that may occur. Remember that pathological conditions are unnatural, and the result of violated laws. It is true with physical as moral law.

"Each man's life
The outcome of his former living is.
The bygone wrongs bring forth sorrow and woes;
The bygone right breeds bliss,
That which ye sow, ye reap."

CHAPTER VII.

HYGIENE OF PREGNANCY.

One in perfect health, living according to physiological laws, needs to make but little change during the period of gestation.

If a girl possessed of a good constitution, has had proper physical training, she is prepared to assume the responsibilities of marriage and maternity.

Realizing her obligations to offspring and posterity, long before assuming the marriage relation, she will study and practice all known laws of health. Full of vigor, life, strength, power; her step elastic, bounding, her face radiant, her presence magnetic! What more charming sight than a rosy, robust, young woman! To such, there are no fears, no forebodings in maternity!

She needs not the counsel of physicians or books. Her own life fulfills the law. It is not for her I write, but for the majority who never know the blessedness of health.

Dr. Holbrook says: "Those ailments to which pregnant women are liable, are, most of them, inconveniences rather than diseases, although they may be aggravated to a degree of real danger. Arising, as they do, from the temporary physical condition of the organism, what they require is,

not such medical treatment as may be needed for a true disease, but rather a general hygienic regimen. For a similar reason, while on one hand it may not be possible to remove them entirely, yet on the other they can almost always be greatly alleviated.

"In general, however, it may be first observed that such a way of living as *shall maintain and elevate the standard of general, mental and physical health, will of course increase the power of resisting and surmounting all ailments whatever.*"

The aim of this work is to show how this standard may be gained and maintained. The directions given in the following pages are simply teachings of nature. No nostrums or mysterious prescriptions are recommended; the lessons taught are an effort to restore what has been robbed from us by our vaunted civilization.

CONGENIAL SURROUNDINGS both for health of mother and child are essential.

Wealth and luxuries are not needful, but comfort and agreeable companionship are desirable, with freedom from excessive physical burdens and mental anxieties.

Men and women to-day are suffering from lack of vitality caused by the over-work and burdens of our pioneer mothers during gestation. The farmer who would not work his mare in foal, counsels or provides for his pregnant wife no relief from toil and care.

The mechanic's wife, knowing the need of making every dollar do its utmost, performs the severest drudgery with only aches, pains and puny

offspring for her compensation. It is true this condition often gives to woman more than ordinary ambition, which may excel her physical strength. With usual health and suitable surroundings, she frequently experiences a mental state of exaltation. She expresses herself as feeling "as if she tread upon air." Her whole being drinks from the fountain of life. She is brought in rapport with all things divine. She herself is a creator, and is it not divine to create?

In this state of exaltation she is no judge of her physical strength. The prudent, watchful husband and loving friends must be her guardians. She must be held in check and admonished of self-interest and the well-being of her child. Otherwise great injuries are likely to be inflicted upon herself and offspring.

I am acquainted with a charming old lady, whose seventy-eight summers have left her in possession of health and happiness as a heritage of a well-spent life. In talking of these things, she says: "Doctor, why is it that my daughters, Jane, Rebecca and Mary Ann, have no powers of endurance? Their father was never sick. My own health and strength have been a marvel to every one. Why, the three girls together can not do the work I could when I was their age. Girls are no account nowadays.

"When I was *like* for my children, I could get up and milk the cows, churn and make cheese. This was not all; I could take the wool from the sheep's back; wash, card, spin, weave and make it into gar-

ments. I could walk two miles to church. I slept soundly and ate heartily. Why, what would have become of us, if I had been lying about in silk-wrappers and satin slippers, dosing with drugs as my girls do now?"

Bless the heart of the dear old lady! just *because* she did all this, her daughters are not her equals in strength. She robbed them of their inheritance, by spending all her vitality in exhausting labor, and vicariously they atone for her wrong-doing.

The woman who indulges in the excessive gaity of fashionable life, deprives her child of vitality as well as the over-worked woman. She attends parties, in a dress that is unphysiological in warmth, distribution and adjustment; the rooms badly ventilated, partakes of a supper of indigestible compounds, and remains into the "wee sma' hours," her nervous system taxed to the utmost.

Faint, weary and exhausted, the following day is spent in receptions and calls, closing with theatre or opera. If feticide is not the result, can any sane woman expect her child under such circumstances to be in possession of vigor and strength? Bounding health is the inheritance of childhood. Woe to the parent who robs it of this inheritance!

I was summoned one morning by a Mr. B., a cheery, successful business man, to see his wife.

He says: "Doctor, I have exhausted my skill and must have advice from higher authority."

"What is your diagnosis?"

"Pregnancy, five months, accompanied by hysteria; unlike herself, she is irritable, fretful and

morose. Sleeps but little, and has no patience with the children or servants."

This was no unusual case. I found Mrs. B. living in a handsome three-story dwelling elegantly furnished. Every luxury was at her command. She had a delicate, sensitive organization, extremely susceptible to all influences. Her five children were full of spirit, noisy and exacting. A late breakfast caused hurry and confusion in preparation for school. Upon arriving my lady was weeping uncontrollably and apparently in great trouble. I took her hand, saying: "My poor child, what is it?"

"Oh, I wish I could get away from myself; life is not worth living."

"None can do that; tell me all and let us see if your sorrows and ills can not be alleviated."

The truth was, although an indulged wife, her burdens were beyond her strength. The Irish cook, good-natured and efficient, had been detected in carrying provisions to a sick friend. The second girl had a beau every night who remained so late that she had insufficient sleep. In consequence was fretful to the children and unfitted for all her duties. The youngest child, still a mere baby, was teething and required attention night and day. Though surrounded by every comfort that love could procure, her strength was too greatly taxed, the nervous system was exhausted. Later in the day her husband called at my office.

He says: "What is *your* diagnosis, doctor?"

"Overtaxed; her nervous system is worn out."

"Why, she has all the help she wants and needs do nothing."

"True; but there is no help to be had for the very things that have worn her out. No one can take a mother's place. She has children too fast for her strength. She is a conscientious mother, desiring to give every child proper training. To do this requires that domestic arrangements be systematic and complete. Successful housekeeping under modern improvements requires the combined heads of an army general and secretary of state."

"Well, doctor, what is your prescription?"

"Take her away from it all."

"Where had she better go?"

"To her mother, a hygienic institute, or what is better, go away with her yourself. Have a second honey-moon; let her see, hear and do what pleases her best, and mark my word, you will be well paid."

Fowler says, "By all the value of splendid children over poor or none, should all other interests be subservient to maternity, not it to them. Brush aside like cobwebs pecuniary, ambitional, and all other ends, and make it imperious lord over all. Your family may better live on bread and water, and you have splendid children, than do all this work, and have ill-natured sickly ones. What are stylish rooms and furniture, many and high seasoned dishes, in comparison with a sweet or hateful child? * * Your child-bearing mission is your one duty. Do this in the very best manner possible, but *make all else secondary*. See that

the prospective mothers want nothing. They deserve, and, as society advances, will yet receive universal sympathy, along with the utmost care and affection."

Because of the suggestions made do not suppose an idle, dependent life is counseled. By no means. A woman in pregnancy, as at other times should be actively employed, and if it can be in some absorbing, congenial, lucrative work, so much the better. It is the incessant nothings of women's work which accomplish so little that wear out the nerves and exhaust the patience.

"Labor is life! 'Tis the still water faileth!
Idleness ever despaireth, bewaileth!
Keep the watch wound, for the dark night assaileth.
Flowers droop and die in the stillness of noon.
Labor is glory! The flying cloud lightens:
Only the waving wing changes and brightens.
Idle hearts only the dark future frightens.
Play the sweet keys, wouldst thou keep them in tune."

A lady who is well known to a large circle of friends as a successful writer and business woman, who is the mother of a large family of sons and daughters, who, at the age of forty-five, is the personification of health and energy, had this remarkable experience: During the period preceding the birth of her fourth child, pecuniary misfortune, and the ill health of her husband combined to make it necessary for her to carry on his business. It was necessary for her to walk nearly two miles every day to his store, where she staid all day, absorbingly engaged in the

duties of looking after the details of sales, keeping the books and accounts, etc., after which day's work she walked back to her home. Everybody said Mrs. B. would surely break down, but instead of doing so, she preserved the most vigorous health and experienced none of the sick and nervous feelings usually incidental to pregnancy. When the child was born, the extraordinary circumstance that its birth was attended with scarcely any pain, led the physician in attendance, and the lady herself to inquire what might be the cause of such a happy departure from the usual rule.

No other cause could be assigned than the long, regular walks, and the vigorous state of her bodily health. Taking a hint from these facts, in all her subsequent pregnancies, she adopted the plan of taking a large amount of out-door exercise, and keeping her mind occupied by useful employment, and in every succeeding birth the same happy results were obtained.

That she was engaged in an absorbing and congenial occupation, no doubt had much to do with the fact that maternity to her only seemed one of the incidents of life. She had no time to foster aches and pains.

Let me prophesy that different and improved methods will be devised to accomplish woman's work. The mothers of the future will be less burdened, and at the same time achieve more satisfactory results in the labor performed.

This can be done and the ideal home preserved. Under the present system, many instances of de-

moralization in domestic life are in consequence of the mother's inability to fulfill all requirements of her position. She is the tie that holds the home, is the mainspring of home-life. In the prophesied future, she may not wash all the dishes and bake all the bread, no more than now she does the spinning and weaving; yet the maternal love, life and instinct will build a nest far more adapted to successful rearing of offspring than is now done under present conditions.

DRESS.

"Give me a form, give me a face
That lend simplicity and grace,
Robes loosely flowing, hair as free,
Such sweet neglect more taketh me
Than all the adulations of art
That take my mind but not my heart."

From first to last, the pregnant woman's dress should be physiological and hygienic. What does this demand? Emphatically looseness, lightness, as well as sufficient and equable warmth.

One dressing healthfully needs to make but little change for pregnancy. Under all circumstances and at all times, dress should cause no restriction to respiration; no interference with digestion, no obstruction to circulation. In pregnancy, there should be no hindrance to the development and elevation of the uterus. To accomplish this a radical change must be made in the ordinary dress of women. To fulfill any useful requirements for the most part it is now a failure. For decorative purposes also, every rule of art is violated, while beauty

and elegance are often sacrificed to fashion, "that most inexorable tyrant to which the greater part of mankind are willing slaves."

Dr. Trall says: "If he was asked what one agency stands at the very head of morbific influences, in causing frailty and malformation, he should answer *woman's dress.*"

Who will come to the rescue, and save us from garments that cause disease and deterioration?

Who but women physicians! In conscientiousness of the right and integrity of purpose, they must teach and preach, line upon line, precept upon precept, until the daughters of our land worship at the shrine of nature, and not lay down their health and lives as sacrificial offering to the fickle goddess Fashion!!

One can be dressed decently, decorously, harmoniously; yes, even elegantly, and still commit no grave violation upon physiological functions. To begin at the foundation, how shall the feet be dressed? Wear only a "common sense" shoe. These are constructed upon anatomical principles, allowing freedom of all the muscles and producing no pressure upon nerves or blood vessels. The sole is *as wide* as the bottom of the foot, the heel is little if any higher than the sole. The curve and elasticity of the arch and freedom of the toes are insured. Many women suffer from headache, defects in vision, loss of voice, indigestion, backache, etc., simply from reflex action of the pressure of the shoe upon nerves of the foot. An elocutionist of fine physical development, weighing at least 170 pounds, testified he

could not command the chest tones of his voice, if his boots caused the slighest compression of his feet. Are not women's nerves as tell-tale in their communications as were those of this stalwart man?

Once in riding in a very crowded South Side car, two bright, intelligent young ladies entered. One with a scowl of pain and fatigue upon her face, says, "I do wish some gentleman would give me a seat. My feet are just coming off." Her companion answered gaily: "Oh, I don't care to sit down. I can stand as well as any man, and so could you if you wore common sense shoes."

Reader, this is not all you could do "as well as a man" if your feet were your untrammeled servants.

Do you say that these shoes are inelegant and you can not endure them? "No sensible person can really suppose there is anything in itself ugly or even unsightly in the form of a perfect human foot; and yet all attempts to construct shoes upon its model are constantly met with the objection that something extremely inelegant must be the result. It will perhaps be a form to which the eye is not accustomed; but there is no more trite observation than the ordinary nature of fashion in her dealings with our outward appearance, and we all know how anything which has received her sanction is for the time considered elegant and tasteful, though a few years later it may come to be looked upon as positively ridiculous. That our eye would soon get used to admire a different shape may be easily proved by any one who will for a short time wear shoes constructed upon a more

correct principle, when the prevailing shoes, suggestive of cramped and atrophied toes, become positively painful to look upon!"

If one persists in wearing the customary shoe in pregnancy the feet may swell, and untold discomfort result. Comfort is frequently obtained at the expense of the husband's slippers. Let him provide his wife a pair of youth's slippers at least two sizes larger than her own. This will save his Christmas gift and possibly teach the wife a valuable lesson about common sense shoes.

In the *Union Under Garments*, or combination suits, there is a world of comfort and freedom.

Properly fitted, once adopting these garments, no woman will "back-slide" to the old chemise and drawers.

The chemise, as the word indicates, is of Arabic origin. Its purpose, being made of wash material, is to protect other clothing from emanations of the body. In its native country it is high necked and long sleeved. Its present uncomfortable style had its origin with Parisian *demi-monde*. It constricts the shoulders and arms, and affords insufficient warmth to the upper part of back and chest. The upper part of the lungs needs even more protection than the lower, and especially on the back. The band of the drawers can not be adjusted so it will not detract from the free use and development of the muscles upon which it presses.

The union under-flannels can be found in most shops, of every grade—from the imported Scotch to very inferior American. Not being able to pro-

cure them, one can change the ordinary vest and drawers. Rip off the band from the latter, try them on and adjust them perfectly. Remove the surplus in the front from the drawers, and in the back from the vest; put them together with a lap seam, leaving the extra fullness of the drawers in the back, making a comfortable, satisfactory garment.

These can be worn winter and summer, if demanded by the needs of the climate, or individual. Over these, in the winter, wear a flannel or ladies' cloth suit called "chemiloons."

These can be trimmed and embroidered to one's taste. In the summer the same garment can be made of cotton or linen and worn with or without the union under-flannels. Remember always that the comfort of these garments depends upon a perfect fit. Don't expect other people's patterns or those you buy will be adapted to you.

To make a desirable pattern, cut a suit from old material and fit perfectly.

Be sure they are sufficiently long in the back. Shortness in the seat is a fault of most patterns for sale. Remedy this by putting a two inch fold in the cloth on the side, where the back of the pattern comes. The sleeves of these chemiloons should be long, especially the flannel for winter.

Over these wear a *princesse waist*, which is a waist and skirt combined. This can be made of muslin, drilling or silicia and trimmed elaborately if desired. Can be cut from a polonaise or princesse dress pattern having it about the length of an ordinary under-skirt. To this put one or two rows of but-

tons, six each, for the attachment of skirts. With the proposed underwear, few will be needed.

If only one is worn that and the outside skirt should be buttoned to the waist. Dressed in the above garments, with skirt and dress waists loose enough for the performance of every bodily function, one will feel as if she had really broken chains, or escaped prison bars.

A tall, noble, brilliant, queen-like looking woman had been a great sufferer from disease, drugs, doctors and dress. With characteristic energy to regain health, she had made a complete change in her garments. No one who saw her, will forget her electrifying expression of triumph as she walked into the room and exclaimed: "For the first time in my life I am an emancipated woman."

Freedom in dress had given her freedom to breathe, live, think, walk, and work. Freedom in dress, with proper physical training, makes it possible at least for every young girl to possess the form of a Venus or Minerva.

What is the test of the dress being sufficiently loose?

One is, lying flat upon the back and with the hips slightly elevated, to be able to take a full, deep and prolonged respiration without hindrance. Another is to hold a book between the tips of the middle fingers, raise the arms *perfectly perpendicular* and parallel to the sides of the head, inflate the lungs and promenade the room. If this can be done easily the dress offers no restraint for any movement of the body. By the ordinary dress

even if there is not actually tight lacing, simply a *snug fit*, we get alterations in the shape and positions of the organs. "When it is considered that the organs which are affected, are those by which the important functions of respiration, circulation and digestion are carried on, as well as those essential to the proper development and healthy growth of future generations, it is no wonder that people suffer who have reduced themselves to live under such conditions."

For the pregnant woman especial pains should be taken that the outside dress be of light material and devoid of surplus trimming. A princesse wrapper is preferable. This reduces the number of bands, throws the weight upon the shoulders, and relieves the back and abdomen from pressure. Any morbid sensibility in regard to appearance, in the true woman, will be lost sight of in the great good to herself and child by having a healthful dress.

Hark! I hear a distant murmur of questions. From many, these reach my ear:

Are the garments you describe all a lady is to wear? Does she not need a corset? What if one can not hold herself up without a corset? Will she wear a corset under or over the princesse waist? Does a loose corset do any harm? Wouldn't you recommend Madame Foy's corset? Won't she be benefited by Dr. Warner's health (?) corset? What about health reform corsets? And faster and faster the questions come until my ears are deafened with "corset," "corset," "corset."

If women had *common sense* instead of *fashion sense*, the corset would not exist. There are not words in the English language to express my convictions upon this subject. The corset more than any other one thing is responsible for woman's being the victim of disease and doctors.

Who can begin to prophesy the untold and manifold sufferings that a factory full of corsets must be responsible for? And where is the end? If only the wearer had to pay the penalty with pain and weakness, we might hold our peace.

One half of the children born die in this country before they are five years of age. Who can tell how much this state of things is due to the enervation of maternal life forces by this one instrument of torture?

I am a temperance woman. No one can realize more than I, the devastation and ruin alcohol in its many tempting forms has brought to the human family. Still I solemnly believe that in weakness and deterioration of health and moral principle, the corset has more to answer for, than intoxicating drinks.

What affects the physical, affects the spiritual; what affects the animal life, affects the mental.

Given a physical body dwarfed and deteriorated in any respect and a corresponding deficiency in spiritual, intellectual and moral worth is likely to exist. Look at our men and women who have been grand and successful in achievement, noble in purpose and vigorous in intellect. With few exceptions they are men and women of harmonious,

strong, athletic physiques. Women can not possibly attain to this condition under the restricting influence of corded and steeled garments.

"What possible harm can a corset do if worn loose?"

My friend, put a band quilted full of cords and bones upon the arm of your active boy, whose athletic feats are your pride; let him wear it ever so loosely and witness the deteriorating effect upon his biceps and triceps muscle! Put a similar bandage upon your pet cat or dog, just as loosely as can be retained and watch the result upon respiration, digestion and circulation! Mark my word, in less than a month it will take more than pepsin to make the food of that animal digest or magnetic insoles to keep its feet warm.

At the close of one of my medical conversations a bright, intelligent young married woman took me aside and asked me very confidentially, how far advanced a woman should be in pregnancy before she laid aside the corset. I had for several days repeated and reiterated in strongest terms my convictions that it was always to be deprecated and never tolerated. Consequently, I was greatly astonished at the question. I replied: "Is it possible with all these illustrations and all this strong language I have not made myself plain? Have I talked in vain?" Then loud enough for the group standing about to hear, I said, "The *corset should not be worn for two hundred years before pregnancy takes place.* Ladies, it will take that time at least to overcome the ill effects of this gar-

ment which you think so essential to your existence."

Abandoning the corset *entirely* and adopting a physiological dress, aside from lessening suffering in pregnancy, goes very far toward alleviating, yes, even *curing*, many of the diseases peculiar to women.

Hundreds of ladies have testified that after trying in vain the most skillful physicians, they have been forced to look into the cause of their troubles for themselves. Once a woman begins to *think* outside of Fashion's dictum, she surely thinks herself out of the *bars* of dress. Once free, her road to recovery is made clear. With other common sense rules of living health becomes restored and precious life saved.

Many girls long unfitted for work have obtained health and strength simply by a change in dress. An agent for reform dress goods gives an interesting incident that occurred in an Iowa college. The professor of natural history, a petite lady, upon seeing the goods became very enthusiastic and gave quite a lecture upon their advantages to the students. She said in her school days and first years of teaching she could not walk over three blocks without fatigue and actual pain. When her day's work was done she was compelled to lie down, being unable to see friends or do extra work. Four years previously, however, she had adopted "common sense" shoes, the reform underwear, also a skirt supported by a waist, and the dress itself made loose and light, as well as short enough to

clear the mud in walking. By this change in her habits she had become able to walk miles in her search for specimens, and knew nothing of weariness or the necessity of rest, save regular hours at night. This is not an exaggerated case, and thousands of delicate, tired, useless girls can become strong and useful, if they will "go and do likewise."

Prof. N. H. Flower closes his admirable work upon "Fashion in Deformity" with these valuable thoughts: "The true form of the human body is familiar to us from classic models. It is, however quite possible that some of us may think the present fashionable shape the more beautiful of the two. In that case it would be well to consider whether we are sure our judgment is sound on this subject. Let us remember that to the Australian the nose-peg is an admired ornament, that to the Thleinket, the Botocudos and Congo negro, the lip dragged down by a heavy plug, and the ears distended by huge disks of wood, are things of beauty; that the Malay prefers teeth that are black. Let us carefully ask ourselves whether we are sure that in leaving nature as a standard of the beautiful, and adopting a purely conventional one, we are not falling into an error exactly similar to that of all these people whose tastes we are so ready to condemn. The fact is, that in admiring such distorted forms as the constricted waist and pointed foot, we are opposing our judgment to the Maker of our bodies, we are neglecting the criterion offered by nature; we are simply putting ourselves on the level

in point of taste with those Australians, Botocudos, and negroes. We are taking fashion, and nothing better, higher or truer for our guide, and may we not well ask with Shakespeare: "Seest thou not what a deformed thief this Fashion is?"

Prof. O. S. Fowler, ever a staunch and fearless advocate for health and temperance, only emphasizes what all sensible persons must believe:

"*Tight lacing* is the second and chief cause of infantile mortality. That it inflicts the very worst forms of ruin on woman and offspring is self-evident. No evil equals that of curtailing this maternal supply of breath; nor does anything do this as effectually as tight lacing. If it were merely a female folly, or if its ravages were confined to its perpetrators, it might be allowed to pass unrebuked; but it strikes a *deadly blow* at the very life of the race. By girting in the lungs, stomach, heart, diaphragm, etc., it cripples every one of the life-manufacturing functions, impairs the circulation, prevents muscular action, and lays siege to the child-bearing citadel itself. By the value of abundant maternal vitality, air, exercise and digestion, is this practice murderous to both. It often destroys germinal life before or soon after birth, by most effectually cramping, inflaming and weakening the vital apparatus and stopping the flow of life at its fountain-head. It slowly but surely takes the lives of tens of thousands before they marry, and so effectually weakens and diseases as ultimately to cause the death of millions more. No tongue can tell, no finite mind conceive the misery it has occasioned

nor the number of deaths directly and indirectly of young women, bearing mothers, and weakly infants it has occasioned; besides the millions on millions it has caused to drag out a short but wretched. existence. If this murderous practice continues another generation, it will bury all the middle and upper classes of women and children and leave propagation to the coarse-grained but healthy, lower classes. Most alarmingly has it already deteriorated our very race in physical strength, power of constitution, energy and talents. Let those who had rather bury than raise their children, marry tight lacers.

"Moralists, Christians, reformers, philosophers and philanthropists of all sects and grades, come, let us unite in presenting a frowning front to this race-ruining practice, and bachelors insist on *natural waists or no wives*, and frown down a practice your patronage imposes. Woman will cease to lace just when and because you cease to require it; for she dresses only as pleases you."

CHAPTER VIII.

BATHING IN PREGNANCY.

The processes of nutrition and waste are more active in the pregnant woman than in any other. Her condition is more like that of a child's, consequently she can bathe more frequently with advantage. When the first "water cure" fever ran like wild-fire through this country, many were alarmed lest the child-bearing woman would literally wash herself away, or at least do great harm. Still, although the *cold* water washing was carried to great excess, yet few cases came to light where any one was injured by it; while hundreds bear testimony that they were greatly benefited. Relief was obtained both for the suffering during pregnancy and at confinement. One step at least was taken in advance which never can be retraced. Previous to that time women were actually afraid of water. It might be well for others, but tradition and prejudice had engraven it upon the very soul, that if a pregnant woman bathed in cold water she ran great risk, and if her hands even were put in cold water after confinement *she would surely die.*

The "water cure" people took the other extreme. The woman doused and swam the whole nine months, and fifteen minutes after her child was

born she would be lifted in her full or sitz-bath. The doctor and the good grandmother could account for the fact that she survived, save by attributing it to some special providence. Forty years only have worked wondrous changes, and now all intelligent women know the luxury of the bath in this condition, if not its healing power.

The sponge or towel bath taken in the morning, two or three times a week, is stimulating and invigorating. No more than two minutes is required for this bath. Should be taken immediately upon rising while the temperature of the body is warm enough to insure thorough reaction. The colder one can use the water, the more sure the reaction. The first few mornings bathe the upper part of the body only. In a short time one can venture upon the whole surface. It should be followed by friction with a Turkish towel or coarse mitten, and if the person is not strong, with rubbing by an assistant. Then for five minutes take deep inspirations of fresh air, and the people are few who do not *feel good* after this ablution. It is par excellence the "ounce of preventive." It is a "coat of mail" against colds, catarrhs and influenzas. To the pregnant woman it is life and vitality, and atones for a multitude of physical sins. A man once wrote that, "by wearing magnetic appliances ozone was developed in the blood." Whether he knew what ozone was, or what condition the blood was in when ozone was in it, is not proven. If, however, it is possible to get a condition in which you feel there is "ozone in the

blood," it is after one of these quick, cold, tonic, invigorating sponge baths. My experience in prescribing it has not proven that even diurnal frequency is debilitating. Too many warm baths may, in time, reduce the physical standard. But simply wetting the surface, with hand, sponge or towel in cold water, or, what some prefer, dashing cold water quickly over the body, is a decided tonic. The only rule against taking it is where one remains cold, showing it is not followed by reaction. A little courage and perseverance is required to form the habit—once formed, few would relinquish it.

A SITZ-BATH is one of the most desirable baths for the pregnant woman. A tin tub made especially for this bath, requiring but little water, ought to be in every household. If unable to procure one, a small-sized wash-tub can be used, raising one side on a stick of wood. Unless for the relief of pain or acute inflammation, tepid water is most beneficial. Commence taking them with the temperature at 90° Fahrenheit and gradually decrease it, until toward the last months it is as low as 60°. Remain in it from three to eight minutes, then have towel and hand friction, followed by rest in the reclining position, and sleep if possible. If it causes "a rush of blood" to the head, remain in a less time and put a wet napkin around the neck. From ten to twelve o'clock is the best time to take this bath. If one has not time to rest at this hour it can be taken just before retiring. Without the rest half the value is lost. This bath

is a tonic, sedative, alterative, laxative, diuretic, anti-spasmodic, anti-periodic, anti-phlogistic, etc.; indeed, it will do almost anything desired to be done for the pregnant woman. It restores nervous equilibrium, it removes obstructions from the surface, is invaluable for portal congestion, and for inflammation of any of the abdominal or pelvic viscera. Nothing is better for insomnia, facial neuralgia, nausea, biliousness, constipation, hemorrhoids, cramps, varicose veins, fatigue, head-ache, nervousness, etc., etc.

Let me impress it thoroughly upon the mind that a woman has omitted the most effectual remedial agent for pathological symptoms, if she has not tried this bath; and not once only, but has taken them every day, or twice a day, for at least a month. She may have taken any amount of remedies, may have used outside appliances, but if she has not had this tepid sitz-bath she has omitted the *very best* and surest means of relief. It can not do harm and it *can do great* good.

If there is severe pain from colic, neuralgia, or acute inflammation, the bath should be taken warm, and in some instances, quite hot; this should be continued fifteen or twenty minutes, with the patient enveloped in blankets; if not already accustomed to it, use hot water cautiously the last two months of gestation, as it possibly may induce premature labor. The subsequent treatment is much the same as after the tepid bath.

Hot fomentations are administered usually by wringing a flannel cloth out of simple or medicated

hot water, and applying to the affected part. Some physicians prescribe bags of hops, tansy, smartweed, etc. Or else, Indian meal or flaxseed poultice to be kept hot in a steamer. All these appliances are remonstrated against by patients and nurses. They are disagreeable and untidy. The bed gets wet and soiled, the patient likewise. Moist heat is wanted, but one is more likely to get moist cold, which has a dampening effect upon both body and mind. The nurse scalds her hands, ruins clothing, and execrates the doctor who prescribed them.

There are several modes of making hot applications with far less trouble. Put part of a sheet or blanket around the patient, to protect the bed and clothing. Then lay a newspaper upon a cook stove, or flat top of a heating stove. Wring a large flannel cloth, dry as possible, out of cold or tepid water. Lay it between the folds of the paper, and it will soon steam hotter than can be handled. Take it to the patient and place it underneath the sheet, in contact with the body. Have another cloth heating, to take the place of this one when it ceases to be hot. Do not wait for it to be cool. The virtue of a fomentation is in the heat, and the temperature must be kept hot. Another still more simple method, desirable where the patient must wait upon herself, is to wring a cloth from warm water; place it over the part requiring treatment, then wrapping a hot stove lid in several papers, put it over it, and keep it there. This need not be changed often, and gives the patient opportunity to rest. A still better method, requiring a small

outlay of money, is to use the rubber "hot water bottle." These usually can be readily procured of different sizes, holding from one to four quarts of water. Boiling water can be used in them, and the heat will be retained many hours. They are soft, pliable and agreeable to the touch, and adjust themselves to every part of the body; can be used for dry heat, and if moisture is desired, place a wet cloth under them. *No well regulated family should be without a "hot water bottle."*

THE HOT FOMENTATION is a valuable remedial agent. It is rare to find acute suffering, where it is not indicated. It alleviates neuralgia and rheumatic pain. It is good for biliousness, constipation and torpid liver. It relieves colic and flatulence. Thoroughly applied in the incipient stages of acute enteritis, gastrites, cystitis, etc., the disease may be arrested, and the doctor cheated of his visit.

The precautions that must be taken in using hot fomentations, especially if moist, is to have them hot and keep them hot while they are continued. When removed, replace them with dry flannel or bathe the part in tepid water, rub dry and put on the ordinary clothing. The latter is desirable when used in chronic affections. In acute attacks, especially of inflammation, it is well to follow or alternate with a compress from cold water. Don't use paregoric, dover's powders, morphine or even a homeopathic preparation until you have tried thoroughly the hot fomentation. Remember when you can get relief from an application like this, you

will not suffer from the poisonous effects of drugs. You rally quicker, and are not as liable to another attack, for nature has had a better opportunity to throw off diseased conditions.

THE COLD COMPRESS is a convenient, safe, desirable and effectual domestic remedy. Like the fomentation, it requires knowledge and skill in its application, or else more harm than good may result. Take a worn linen napkin or towel, wring dry from *cold* water, apply to the affected part, then cover well with several thicknesses of flannel, securely excluding the air. Reaction soon follows, warmth ensues and the same or better result is obtained than from a poultice. It can remain on one, two or three hours or else all night. Should always, when removed, be followed with thorough bathing in cold water and friction from a coarse towel and the hand.

It will not do to apply this compress wet in warm water. In that case it *grows cold and keeps cold.* If wet in cold water, the colder the better, it sends the blood from the surface and the *reaction causes it to get warm and keep warm.* To make it subserve its purpose these three rules must be observed:

1. Wring from cold water.
2. Wring dry.
3. Cover thoroughly with flannel.

The compress should never be continued where warmth and reaction can not be obtained. In persons with a cold surface and a sluggish circulation, it is well to precede it for half an hour with a hot

fomentation. The compress is beneficial both for acute and chronic inflammations. In sore throats, croup, bronchitis and inflammation of the lungs it is invaluable. Have known many persons to use no other means for croup, wringing the cloth from ice cold water. In inflammations of the abdominal and pelvic viscera it is equally good. In pregnancy, if there is irritation in the stomach, congestion of the liver, constipation or distress of the bowels accompanied by heat, the compress in these regions will be beneficial.

The heat and dull aching pain in the back, that is so often complained of, is the result of some irritation in the uterus. The compress worn at night, or when taking the daily rest, will give great relief. The frequency and length of time continued must depend upon the case. It can simply be put across the back, or extend entirely around the abdomen.

THE FOOT AND LEG BATHS are good derivative appliances. Taken warm they will relieve nervousness, sleeplessness and irritability.

For habitual cold feet there is no better remedy than bathing the feet in cold water just before retiring. Have everything ready for retiring. In the foot tub put three fourths of an inch of cold water. Hold the feet in that less than half a minute. Then dry with coarse towel and spat them well. The reaction gives warm feet for the night, and if persisted in three or four weeks, habitual cold feet are often cured.

THE TURKISH OR THERMAL BATH affords one of the best, surest and safest sanative and therapeutic

agents known to medical science. In a well appointed establishment for this bath, the subject enters a room heated from 130 deg. to 160 deg. Fahrenheit; remains there until copious perspiration is induced. He is then taken to a room, temperature about 90 deg. Lying upon a slab or table is thoroughly shampooed with soap and water.

This is followed by a spray, douche, shower or plunge bath; then he is dried and thoroughly manipulated by an attendant, after which he lies upon a couch from half to one hour to cool and rest.

This bath is an expensive luxury, and not within the reach of rich or poor in any but our larger towns and cities.

A bath having equal value as a hygienic or therapeutic agent, with a simple and inexpensive apparatus can be taken at home. This I call a "Turkish or thermal bath at home." Any woman with ordinary *common* or *nurse sense* can give these baths satisfactorily by observing the following directions:

Take a chair with a wooden seat, an armed office chair preferable, place in it a piece of flannel blanket so folded that it will fall down in front; under the chair put a coffee cup one third filled with alcohol. If any other vessel is used be sure the opening is no larger than a cup, as this gives sufficient surface for the combustion of the necessary amount of alcohol; have a foot tub in front of the chair with warm water for the feet.

The patient is seated in nature's raiments only, or as Mark Twain says, "in his complexion," en-

veloped closely in woolen blankets. One of these is put over him in front and the other at his back, outside of the chair. After he is seated and covered, light the alcohol with a taper. Don't risk burning yourself by using a match. The subject will begin to perspire in from three to five minutes. If blood rushes to his head, giving a red face and feeling of fullness in the brain, put a napkin round the neck, wrung from tepid water. This is better than wetting the head, and if it is a lady, it has the advantage of not taking the "crimp" out of her hair.

If he is faint or sick at the stomach, as one may be with the first bath, or if very *bilious*, let him drink copiously of hot water or very weak ginger tea. If the perspiration is slow in starting, or if the heat is excessive let him bathe the surface with a sponge dipped in cold water. Let him remain fifteen to twenty minutes or longer if necessary, to induce copious perspiration. He can then be bathed and rubbed sitting in the chair. If he is weak, or longer perspiration is desired, let him lie upon bed or couch enveloped in the blankets, where he can be bathed under cover if necessary. Let the manipulation be thorough. Squeeze, press and pinch every muscle in the body and spat the surface with the ends of the fingers, having the wrist free. Using the entire arm and palm of the hand makes hard work, and does not give good results. If the attendant is magnetic the fingers cause tingling, like hundreds of needles.

Let him lie for an hour to rest, cool and sleep.

How readily and easily this luxury and remedial agent can be carried into every home! The apparatus required is simply a wooden seated chair, two and a fraction woolen blankets, an old cup, a foot tub and five cents worth of alcohol.

This bath should not be taken less than two hours after eating. If taken sooner it is nearly impossible to induce perspiration, besides interferes with digestion. For invalids, the preferable time is about ten or eleven in the forenoon. The business man or woman can take it upon rising in the morning or just before retiring. If necessary, one can go out immediately after the bath. There is no *danger of taking cold* if one is bathed in cold or tepid water, and has thorough *massage.*

As a *sanative measure* the *Thermal bath* can be taken at least once a week; for diseases, the frequency depends greatly upon the case and the individual.

It will not weaken a person.

Have seen invalids, unable to sit up, gain strength with the daily use of this bath. In the first renovating process that is induced, one may have a *sense* of weakness or faintness, similar to the effects of medicine that rouses up the vital functions, but the cases are rare that this does not pass off in a few hours, leaving a corresponding gain. *The Thermal* bath is valuable because:

"1. It cleanses and promotes the healthy action of the skin as no other bath can do, thus relieving the other excretory organs.

2. It equalizes the circulation of the blood, and

removes all local congestions of any and every part, which is one of the most important things to be accomplished in the treatment of disease.

3. It is the quickest, easiest, and most effectual means of purifying the blood known to man. It literally washes the blood of its impurities. The patient drinks pure water, it is absorbed, passes into and mingles with the blood, by which it is carried to the capillary net-work of the skin and poured upon the surface in the form of perspiration; not pure as when it was taken into the stomach, but mingled with the humors and impurities of the blood. If this were its only use, the Thermal Bath would be invaluable.

4. It soothes and tranquilizes the nervous system, sweeps the cobwebs of care from the brain, leaving it clear and refreshed, and equalizes the flow of the nervous fluids throughout the body.

For the above reasons the Thermal bath is *specially* useful in the treatment of all diseases arising from impurity of the blood, inactivity of the skin, local congestions, or inflammations, or unbalanced nervous action, as Humors of every kind, Drug Poisoning, Scrofula, Consumption, Diseases of the Skin, Dropsy, Remittent and Intermittent Fevers, Coughs, Colds, Catarrh, Croup, Gout, Rheumatism, Neuralgia, Diseases of the Liver and Kidneys, Bronchitis, Chronic Diarrhœa, etc."

THE THERMAL BATH will break up a cold in its first stages and at any time will give certain alleviation.

It is invaluable for ague. Should be taken about the time the chill is anticipated, and given thoroughly. The cases are rare that will resist the third or fourth bath, using no other means.

In chronic rheumatism it has no equal in therapeutics. For this can be taken every day. Some have taken them twice a day with benefit. Cases long resisting all other methods of treatment have been entirely cured by the Turkish bath.

Most eruptive diseases are helped by it. A lady told me she had salt-rheum all over her body. A ten-cent piece could not be laid on a spot free from eruption. She took these baths *daily* for three months, without any other remedy, and cured herself. She gained in strength, flesh and appetite, and, besides, found herself freed from many minor ailments.

The Thermal bath is valuable in pregnancy, when there is dryness of the skin, coldness of the surface, with sensitiveness to cold, difficulty of breathing and general torpor or stagnation of all the functions. If the pregnant woman has any of the diseases mentioned above she will find this bath just as efficacious as if she was not *enciente.* She should have a good, skillful attendant, and take ample time to rest after it. Do not fear disastrous results. Ladies have taken them once or twice a week during the entire pregnancy with benefit.

The following testimonials only emphasize what has been written:

The Queen of baths.—*Dio Lewis, M. D., Boston, Mass.*

Turkish baths purify and invigorate.—*D. Wark, M. D., Saratoga Springs.*

Unsurpassed, as combining luxury and utility. —*R. M. Lackey, M. D., Chicago, Ill.*

I recommend the baths as a healthy exercise.— *W. E. Anthony, M. D., Providence, R. I.*

The Turks have always considered the public baths of Constantinople as supplying the place of a certain number of hospitals, which would otherwise have to be built.—*Dr. Haughton.*

Ladies, note this:

The use of the Turkish bath renders the complexion more delicate and brilliant—the eye becomes clearer and brighter—the whole person is rendered fragrant, and all personal charms are enhanced.—*Dr. Barter.*

After a day of labor and care, which had quite exhausted me, I have just taken one of the Turkish baths, and come out feeling completely rested as when I arose from my bed in the morning—in short, as good as new.—*L. H. Thomas, M. D., Waterbury, Vt.*

The only sure cure for a cold is the Turkish bath. It opens the pores and starts the system afresh into working order. I cheerfully recommend it, even to persons in good health, as the best means to keep the healthiest secretions.—*Dr. D. F. Clinton, New York.*

The Turkish bath is a "boon to humanity," an important auxiliary to the cure of disease, and one of our best means of purifying the blood. It is firmly believed that the Turkish bath is one of the

most potent remedial agents known to the profession; and that therefore it should be introduced into every hospital, city and village in the land.—*S. E. Chaille, M. D., in N. O. Medical and Surgical Journal.*

It would be well if all the human race could have at least one Turkish bath each week. It would conduce more to their happiness than any other one thing. Rely upon it, it is the *ne plus ultra* of baths.—*Dr. J. E. Westervelt, Richmond, Ind*

CHAPTER IX.

DIET FOR PREGNANCY.

Proper food in pregnancy is not more necessary for health and strength of the mother, than to give a normal development to the child. If the food does not afford suitable nourishment or is not properly assimilated pathological conditions inevitably result. Besides few have learned that the *kind* of nutriment taken has much to do with the ease or severity of labor.

The food of the pregnant woman should consist of articles that are nutritious, but not stimulating or heating to the blood.

Should be eaten at regular intervals and under favorable conditions.

An important matter is to avoid fluids while eating. Liquid, taken into the stomach, is removed by absorbents before the gastric fluid can be secreted to dissolve the food and convert it into chyle. A strong, healthy stomach may perform both processes easily. One weakened by dyspepsia, lacking in nerve power or by the reflex action in pregnancy may not be able to accomplish this double duty; consequently very much is gained by taking the food dry. Drink, if there is thirst, half an hour before a meal and not within three hours after. Eat less salt and there will be less thirst.

Avoid all condiments and for the most part *fats* and *sweets.*

The two latter are pure carbon, therefore cause and increase febrile conditions. Sufficient carbon can be obtained in the farinaceous food. Lean meats, the very best of beef, mutton, boiled, roasted or smothered, cooked quickly and rare, and wild game may be eaten by some without injury. But owing to their stimulating elements, and their effects upon the formation of character, parents desiring to give the world the best reproduction of themselves will avoid the use of animal food.

A woman has for her diet a choice from all the grains, all the vegetables and all the fruits. When a working animal thrives and retains its strength upon two articles only, viz., corn and straw or oats and hay, can not the human make a bill of fare of sufficient variety to please the most fastidious, out of all the grains, fruits and vegetables? Ordinarily if food was chosen to supply the *needs* of wasted tissues rather than to pander to perverted and capricious appetites, there would be less necessity of a special diet for pregnancy.

Physiologists have within a few years advanced the theory that if a pregnant woman subsists upon food devoid of the elements that nourish and develop the osseous tissue, thus rendering the cranial structure pliable, the labor will be comparatively easy and painless. The first that was known of this theory was from a small pamphlet published in England in 1841. It was written by a Mr. Rowbotham, a practical chemist of London. His wife

had been so great a sufferer in two confinements that he had reason to fear she would not survive the third. The work gives an account of the experiment which met with such favorable results, he felt it his duty to publish it for the benefit of others. His theory was that, "in proportion as a woman subsists during pregnancy upon aliment that is free from earthy and bony matter, will she avoid pain and danger in delivery; hence the more ripe fruit, acid fruit in particular, and the less of other kinds of food, but particularly of bread or pastry of any kind, is consumed, the less will be the danger and suffering in childbirth."

"The subject of this experiment had, within three years, given birth to two children; and not only suffered extremely in the parturition, but for two or three months previous to delivery her general health was very indifferent, her lower extremities exceedingly swelled and painful; the veins so full and prominent as to be almost bursting; in fact to prevent such a catastrophe, bandages had to be applied; and for the last few weeks of gestation, her size and weight were such as to prevent her attending to her usual duties. She had on this occasion, two years and a half after her last delivery, advanced *full seven months* in pregnancy before she commenced the experiment at her husband's earnest instance; her legs and feet were, as before, considerably swelled; the veins distended and knotty, and her health diminishing.

"She began the experiment in the first week of January, 1841. She commenced by eating an ap-

ple and an orange the first thing in the morning, and again at night. This was continued for about four days, when she took just before breakfast, in addition to the apple and orange, the juice of a lemon mixed with sugar, and at breakfast two or three roasted apples, taking a very small quantity of her usual food, viz.: Wheaten bread and butter. During the forenoon she took an orange or two, and an apple. For dinner took fish or flesh in a small quantity, and potatoes, greens and apples, the apples sometimes peeled and cut into pieces; sometimes boiled whole with the potatoes; sometimes roasted before the fire, and afterward mixed with sugar. In the afternoon she sucked an orange or ate an apple or some grapes, and always took some lemon-juice mixed with sugar or treacle. At first the fruits acted strongly on the stomach and intestines but this soon ceased, and she could take several lemons without inconvenience. For supper she had again roasted apples or a few oranges, and rice or sago boiled in milk; sometimes the apples peeled and cored, were boiled along with the rice or sago. On several occasions she took for supper apples and raisins, or figs with an orange cut among them, and sometimes all stewed together. Two or three times a week she took a teaspoonful of a mixture made of the juice of two oranges, one lemon, half a pound of grapes, and a quarter of a pound of sugar or treacle. The sugar or treacle served mainly to cover the taste of the acids, but all saccharine matter is very nutritious. The object in giving the

acids was to dissolve as much as possible the earthy or bony matter which she had taken with her food in the first seven months of her pregnancy. She continued in this course for six weeks, when to her *surprise and satisfaction*, *the swelled and prominent state of the veins*, which existed before she began, had *entirely subsided;* her legs and feet which were also swelled considerably, had returned to their former state; and she became so light and active she could run up and down a flight of more than twenty stairs, with more ease than usual when she was perfectly well. Her health became unwontedly excellent, and scarcely an ache or a pain affected her up to the night of her delivery. Even her breasts, which, at the time she commenced the experiment, as well as during her former pregnancies, were sore and tender, became entirely free from pain, and remained in the very best condition after her delivery also, and during her nursing."

It is evident Mr. Rowbotham obtained more than he anticipated for his wife. He had only expected to arrest or decrease the development of bone, but by eating so largely of acid fruits, the inflammatory or "bilious" condition was overcome. The oxygen of the acids united with the excess of carbon previously taken thus relieved the pathological symptoms under which she was suffering. It is doubtful whether the final favorable result would have been attained had this not been the case, as prolonged suffering often accompanies a premature labor when there is little osseous de-

velopment. The fact that Mrs. R. was in such an improved state of health adds to the interest and importance of the experiment.

He continues: "At nine o'clock, after having cleaned her apartments, she was in the adjoining yard shaking her own carpets, which she did with as much ease as any one else could have done. At half-past ten she said she believed her 'time was come,' and the accoucheur was sent for. At one o'clock the child was born and the surgeon had left the room. He knew nothing of the experiment being made, but on being asked on paper by the husband two days afterward if he 'could pronounce it as safe and as easy a delivery as he generally met with,' he replied on paper: 'I hereby testify that I attended Mrs. Rowbotham on the 3d inst., and that she had a safe labor and more easy than I generally meet with.' On his asking the midwife if she thought it as easy as usual, she replied: 'Why, I should say that a more easy labor I never witnessed—I never saw such a thing and I have been at a great many labors in my time!'"

The child, a boy, was finely proportioned and exceedingly soft, his *bones resembling gristle.* He became of large size and very graceful, athletic and strong as he grew up. The diet of his mother was immediately changed and she ate bread and milk and all articles of food in which phosphate of lime is to be found and which had been left out before. She also got up from her confinement immediately and well. After her last delivery, July, 1838, full ten days elapsed before she could leave her bed,

and then swooned at the first attempt; on this occasion, March, 1841, she left her bed the fourth day and not only washed, but partly dressed herself. Had she not been influenced by custom and somewhat timid, she might have done so sooner. To be assisted appeared like a burlesque to her, not to say annoyance. She had no assistance from medicine.

In the former pregnancies, she had subsisted very much on bread, puddings, pies and all kinds of pastry, having an idea that solid food of this kind was necessary to support the fetus. Nutritious food can be had without that hard and bony element, which is so large an ingredient of wheaten flour. Sago, tapioca, rice, etc., have little of it."

This is a remarkable case, indeed in some respects seems almost incredible. The theory expounded certainly deserves consideration. If there is any reasonable method by which the throes of parturition can be mitigated, women want to and ought to know it.

I have tested this theory thoroughly, and know many lady physicians who have instructed their patients accordingly. The last four years, I have been teaching it to women in my *conversations*, and have many testimonials of good results. One commencing at the first of pregnancy need not eat so plentifully of the fruit as did Mrs. R. Use it freely, at regular meals.

A woman, who all her life has violated natural laws, and consequently has been an invalid, is diseased by deleterious diet, is deformed by unnatural

modes of dress, can not expect to have a perfectly painless labor. Even such can, however, do much to mitigate her suffering by fidelity to these teachings. Like Mrs. R., comfort, health, strength and vivacity can be obtained during pregnancy, and the *agony* of parturition, that usually continues from twenty-four to forty-eight hours can be reduced, both in duration and violence. The consequence will be a speedy restoration of the organs to a normal condition.

One case does not prove a theory correct, hence the reader's attention is called to the following notable experiences:

A Mrs. W., the wife of a prominent Judge, in the northern part of Michigan, is a woman of fine physique, and apparently robust health. She is the mother of four children. With the first three, she suffered prolonged and agonizing labor, lasting in the expulsive stage from thirty to fifty hours. Becoming pregnant again, her heart was filled with terror lest she should not survive the ordeal. She was four months advanced in pregnancy, when she became acquainted with the "Fruit diet" theory, and lived accordingly, subsisting almost entirely upon fruits and vegetables.

Her health became unusually good. The pains, aches and discomforts she had experienced in the last months in previous pregnancies were entirely wanting. The time of delivery had arrived. At five o'clock in the morning, she was suddenly awakened with a severe cramp in her limbs. She arose and walked the floor without relief. Return-

ing to the bed, she obtained ease by applications of warmth and friction.

She fell into a quiet sleep, which lasted perhaps half an hour. From this she was awakened by a labor pain. The doctor was hastily summoned, and although he lived across the street and came at once, the child was born before his arrival. This occurred before seven o'clock, less than two hours from the time she was awakened with the cramps. She avers the effort that expelled the child could not be called a pain, only a sense of discomfort, or of continued pressure.

Her child is now three years old, is unusually healthy and robust. The bones were pliable at birth, but soon solidified. When it is known that many of the bones of the human body under any circumstances are not fully ossified until about the 20th year, it need be no source of uneasiness that the osseous structure is more than usually pliable at birth.

Mrs. ——— with her first child had the usual three months of "morning sickness" which, in her case, continued the entire day. Besides many other discomforts she suffered fearfully from bloating and lameness, so much so that she was unable to leave the house during the last weeks of gestation. She only bathed in warm water frequently enough to answer the demands of cleanliness. Her labor was both severe and prolonged. She had convulsions and after forty-eight hours of agony the child was removed with instruments. Her confinement was followed with broken breasts, metritis and cellulitis,

and she was unable to sit up a moment until the child was five weeks old. With her second child she bathed freely in cold water and lived upon the "fruit diet." She had no morning sickness, no heartburn, no neuralgia, and scarcely any bloating or lameness. It may be said that the child was born *without any labor* as she *had no sensation of pain.* She had slept unusually well, awakened about three o'clock with the "breaking of the waters," called her husband, who sprang from the bed, but could not get dressed to call her mother who was upstairs, before the lusty cry of the little stranger pressed him into the work of an amateur accoucheur. She used cold water freely after her confinement, and had no gathered breasts, no inflammation, or trouble of any kind. Felt able to get about the house the following day; seemed a burlesque to lie in bed. She speaks of it joyfully as one of the greatest triumphs of her life and preaches the doctrine to all she meets. She could not be convinced that there is any need of childbirth being accompanied by pain.

I have yet to recount the most extraordinary experience that has come under my notice, and a pretty positive proof of the efficacy of the "fruit diet."

Mrs. L. T. Colburn, living in Eureka, Kansas, is a woman, short, fleshy and what is called *solid built.* She has five children; with the first four, her labors were severe and prolonged. Some of them only terminated with instrumental interference. Relays of neighboring women were worn out in rendering

her the customary aid, and some of her male relatives had to be pressed into service. During her last pregnancy, *accidentally*, she lived upon fruit and rice, and her experience was unlike the former deliveries as night is unlike day. Her husband kept a grocery and provision store, and the family lived over the store; Mrs. C. was in the grocery frequently. She had a *craving* for lemons and oranges, and ate of them very freely, often consuming half a dozen of either at one time. Her greediness for these fruits became the by-word of friends and neighbors. Previous to this time her eldest son, showing symptoms of irritation of the brain, by direction of the physician had subsisted upon rice instead of the products of the wheat. From this the entire family came to living almost totally upon rice. As usual, she made very elaborate preparations for her confinement; her physician, nurse and friends were engaged. At the end of nine months she was awakened with the "breaking of the waters." She aroused her husband. He thought he had better go for the doctor. "Why, there is no use," she says, "I have not a particle of pain." However, he feared there was something wrong, and having a horror of a dilemma, after calling her sister, went with all possible haste for medical aid.

The sister, too, was alarmed, and went to the next door to call a neighbor. Before either returned, while entirely alone, the child was born, *without the sensation of pain.*

Mrs. C. had talked her experience over many

times with her husband and friends, and was never able to account for the very marked difference in her confinements until at my *conversations* she heard me expound the "fruit diet" theory. With tears streaming from her eyes she recounted her story; she said: "I am so glad to know this is not the result of chance—that it is truth and philosophy by which all may profit."

Mrs. C. is a true woman; she told me she was willing her name and experience should be used for the benefit of others, and, at my solicitation, handed me the following testimony:

"This is to certify that I know what Dr. Stockhalm teaches in regard to "Fruit Diet" is true. When pregnant with my last child, accidentally I lived upon rice and fruit, and my child was born comparatively without pain or sensible effort; could not get a physician in time, nor did I need one. In four previous deliveries I had physicians with me over twenty-four hours, and had prolonged and severe labors.

I can account for the difference only in the fruit and rice diet.

L. T. Colburn,
Eureka, Kansas.

May 2, 1882.

Food and drink should be chosen that lack in bone-forming materials. The carbonaceous elements of the grains are not objectionable, while to prevent inflammation the free use of *fats* and *sweets* should be avoïded. Of the grains; beans, barley, rye and oats, in order, contain the largest amount of mineral product; wheat not quite so much; corn almost none. Lean meat, chicken, oysters, clams, lobster, crab, etc., abound in the mineral salts. All garden vegetables, save beans, are desirable. Eggs, wheat and milk can be used moderately.

The most important point to observe is to *feast on fruits freely.* The oxygen of acid fruits unites with the carbon, hence besides dissolving the phosphates, prevents inflammation.

That the *fruit diet* prevents the diseases of pregnancy and the sufferings of parturition, is a *boon to every woman*, and any person knowing this ought to preach it until every woman accepts and practices it.

THE BILL OF FARE below suggests dishes desirable in pregnancy, remembering to add fruit. Next to lemons and oranges, apples, peaches and plums should be chosen. For supper it is better to take simply rice or corn gruel, or if in summer a dish of ice cream.

BREAKFAST FOR EACH DAY OF THE WEEK.

1. Corn mush, rice cakes, potato balls.
2. Boiled rice, cracker omelet, baked potatoes.
3. Rice omelet, corn cakes, rhubarb on toast.
4. Cracked wheat, rice muffins, tomato toast.

5. Boiled rice, cream codfish, potatoes, corn cakes.

6. Sago and cream, potatoes, breakfast patties.

7. Rice gruel, corn muffins, gooseberry toast.

DINNER FOR EACH DAY OF THE WEEK.

1. Tomato soup, green corn, boiled rice, apple tapioca pudding.

2. Potato soup, turnips, corn bread, rice pudding.

3. Boiled eggs, asparagus on toast, boiled rice, rhubarb pie or cracked wheat pudding.

4. Green peas, potatoes in cream, spinach, boiled rice, strawberry dessert or fruit blanc-mange.

5. Macaroni, mashed potatoes, celery, rice snow.

6. Asparagus, greens, boiled rice, fruit shortcake.

7. Eggs poached in milk, Boston brown bread, farina blanc-mange or plum pudding.

To assist one in making a proper selection in diet we present the following:

ANALYSIS OF FOOD.

ARTICLES.	Nitrogenous.	Carbonaceous.	Mineral Salts.	Waste.	Water.
Wheat*.....	18	77	2	3	
Rye*.....	13	81	3	3	
Barley*..	13	79	3	5	
Oats*.....	14	75	3	8	
Maize*.....	12	80	1	7	
Buckwheat.....	13	67	2	4	14
Rice.....	5	82	0	4	9
Beans.....	30	57	4	1	8
Lean Meat.....	19	4	5		72
Potatoes.....	2	24	1		73
White Fish....	18	3	1		78
Eggs..... ..	16	30	2		52
Milk....	4	9	1		86
Sugar } Butter }		100			

*A dry state. In an ordinary state grains contain 11 to 18 per cent water.

CHAPTER X.

EXERCISE IN PREGNANCY.

All animal life is full of activity. Motion is a law of nature. To remain quietly in closely heated rooms is sure to cause disease in the pregnant women. Without exercise food can not be assimilated, the processes of depurition are imperfect, the muscles lose tone and power, and the nervous system becomes prostrated. On the other hand excessive labor often proves injurious. Some muscles are over-taxed and local strains produced. It is difficult to give directions for all cases. Exercise should not be carried to actual fatigue. A slight weariness that *makes the bed feel good*, can do no harm.

General house-work is desirable, avoiding the more laborious portions, like washing, scrubbing and heavy lifting. In house-work one brings into action nearly all the muscles of the body with the exception of some of the trunk and those used in deep respiration. Even these would not lack development, if clothing caused no restrictions. In the home work a woman reaches, stoops, turns, twists, walks, lifts and climbs stairs.

Usually housekeeping interests the woman during pregnancy if at no other time. She is *nest building* and the home work is a labor of love.

She rests in the quiet of a cozy, retired home. How easy to perform the duties that the heart sanctions and impels!

If a woman has no functional derangement, walking and carriage riding are invaluable. *She can not be too much in the out-door air.* Properly clothed, brisk walking brings into action nearly every muscle and is invigorating to every function. American women, as a rule, walk too little. Wearing common sense shoes, the arms free, the dress short and loose, one can accustom herself to walking long distances with positive benefit.

Light gardening can not be too highly recommended. It has the advantage of being *out doors.* It gives postures that bring into action the unused muscles of the trunk and abdomen.

Coming in contact with the earth carries off any excess of electricity. Besides, the results, either in a supply of fresh vegetables for the table or in floral decorations are always satisfactory. My own experience proves that getting out and working in the ground is a cure-all for *ennui*, indigestion, torpid liver, anxiety, despondency; indeed, any slight physical derangement or mental disturbance.

Possessing no garden, lying flat upon the ground without blanket or pillow answers a good purpose. More rest can be obtained in five minutes than in five hours upon lounge or bed in the house. Although this is contrary to all tradition and teaching many have proved its value.

What is the object to be gained by exercise in pregnancy?

Evidently, absorption, nutrition and excretion. All the functions must be kept to a normal standard that the processes of assimilation and waste can be perfectly performed.

The involuntary muscles of respiration must be educated. The muscles required in parturition must be developed and strengthened. These are some of the muscles of the trunk, abdomen, pelvis, perineum and groin.

Full and deep breathing is not only necessary to perfectly oxygenate the blood and by the attendant motion to promote digestion, but it makes room for the fetus as well. It expands the walls of the abdomen and the ribs, and strengthens the sustaining power of the uterus.

Is it not possible, too, that it gives a necessary *exercise* to the fetus, a constant gentle motion promoting the functions necessary to its development?

Breathing for the most part is an involuntary action, in children and animals is performed naturrally from the abdomen or flank.

"Look upon that quietly sleeping cat upon the rug. Its sole indication of vitality is the bellows-like motion of its body in breathing. You must also have observed, that in *all* domestic animals, at each respiration, an undulating motion extends quite through the whole trunk, and that this motion terminates only at the hindermost limbs. This is natural respiration as it is performed throughout quadruped existence.

"Have you a perfectly healthy lady friend? Lay your hand upon her and you will find that the

abdomen rises and falls in exactly the same way at every respiratory act; not only so, but this act is involuntarily performed in a more profound manner every few moments, and that this increased motion operates *particularly* upon the lowest portion of the trunk.

"Observe in the same way your own person. If you are an invalid you will find this motion diminished, perhaps suppressed. When half performed you only half live."

That adults, and especially women, have not this deep *waist* breathing is on account of disuse of the muscles. The young man who is stoop-shouldered, walks the streets with his hands in his pockets or sits bent over his desk, soon diminishes the action of these muscles. The girl, although her pride keeps her head and shoulders erect, compresses and fixes the lower muscles of respiration and breathes only with the top of the lungs. When either man or woman has lost the ability to breathe deeply a long road must be traveled to educate these muscles back to natural use. I met a man in Colorado who had broncorrhœa and occasional lung hemorrhage. Although he could walk six or seven miles he could not breathe below the eighth rib. I said: "I did not know a man could live and breathe no deeper. By all your hopes of life, you must learn to breathe. To be sure you can walk, but the muscles of your legs don't help your respiration. Take exercises that develop the diaphragm and abdominal muscles. Breathe down, *down*, and relieve the congestion of the upper lungs." He says: "I

have consulted many physicians the last six years and why have none told me this before?" He wrote me several months afterward that simply by developing the lower muscles of respiration, he had saved funeral expenses.

The gymnast and vocalist take pains to teach deep breathing, which is simply restoring natural processes. The cow will low all day for her lost offspring without fatigue or hoarseness, because she does it with expiration and breathes from her waist or flanks. The boy who roams the woods, gathers nuts and hunts squirrels and keeps his hands out of his pockets can *hallo* hours without weariness. He breathes naturally and uses his voice naturally. He only does what the singer and orator are taught to do in after years, because through disuse this has become a *lost art* to them. The blacksmith or stone-cutter desiring to strike a heavy blow, does it with expiration, and the breath is driven from the lungs with an *ugh!* that is almost a groan. No matter what knotted muscles he may have upon his arm, if the great converging muscle below the lungs is not equally strong and powerful, he can not strike an effective blow. It is said out of three hundred candidates for the Navy school recently, two hundred and twenty-five were rejected simply because of contracted chests and inefficienbreathing. Manhood, womanhood, endurance and longevity depend upon lung power, and this is within the reach of all.

EDUCATE THE MUSCLES OF RESPIRATION. "To learn deep breathing be as passive as possible; that is, assume a position in which all the voluntary motor

muscles are inactive. Lie flat on the back, perfectly horizontal, without even an elevation of the head. Shut the mouth and draw the air in through the channel provided by nature—the nose. As a result of bad habits, most persons will raise the upper ribs, yet this expansion will soon yield to a movement of the lower ribs, and this again will gradually cease by continued practice, as will also every distension of the ribs. All these faulty movements will be superseded by a bulging out of the abdomen, whose outward swelling will be proportioned to the amount of air inhaled." Exhale also through the nose, letting the breath out slowly. Alternate costal and abdominal breathing. That is, with one inspiration swell out the sides; *burst the belt;* this retracts the abdomen; with the next, bulge out the abdomen, which is done by pressing the diaphragm down.

In pregnancy, if a woman is very delicate, unable to take voluntary exercise, let her have *massage*, which is a thorough manipulation of all the muscles. Otherwise the following exercises will be found invaluable, to promote natural breathing and develop the muscles required in parturition. Begin cautiously with the first five, increasing the number and time devoted to them as strength is gained. When the erect position is directed, and always standing and walking, assume the

MILITARY POSITION.

1. Heels in a line, and together.

2. Feet turned equally outward, forming an angle of forty-five degrees.

3. Knees straight.

4. Body square to the front.

5. Chest expanded and advanced, but without constraint.

6. Arms hung easily to the side. (Swing them out and let them drop like a pendulum.)

7. Shoulders equal height.

8. Shoulder blades flat.

9. Head erect, raised at the crown (as if suspended by a cord), not tipped in any direction.

10. Chin *slightly* drawn in.

11. Form raised to full height.

12. Body poised slightly forward, so that the weight bears mainly on the ball of the foot.

13. Eyes straight to the front.

14. Whole figure in such a position that a line will pass through ear, shoulder, hip, knee and ankle.

Get this position before a glass and practice it, until it can *always* be maintained. It gives ease, grace and strength. Teach it to every child.

EXERCISE ADAPTED TO GESTATION.

1. Standing position. Carry the weight of the body as far forward and backward as possible, without lifting heels or bending knees. Four counts to each movement.

2. Same position. Bend body slowly from side to side. Keep knees straight and feet firm.

3. Hands forward on hips, bend trunk at hip joint slowly forward; rise slowly and bend backward, always keeping the head in position with the body.

4. Inflate the lungs. Touch the shoulders lightly with the tips of the fingers. Bring the elbows slowly in front of the body. Lift them as high as possible. Throw elbows back and up, the fingers still touching shoulders. Bring them back to commencing position. Expel air. This exercise elevates the ribs and expands lower part of chest.

5. Erect position. Inhale. Finger-tips to shoulders. Hold the breath to count twenty, then with clenched fist strike downward and forward, palms front, expelling breath forcibly with the motion. If the motion is decisive the breath will naturally be expelled with the diaphragm.

6. Kneel on a cushion, knees far apart, stretch arms upward, parallel with each other by the side of head, bend trunk slowly backward as far as possible, remain to count four, return forward as far as possible, keeping knees and feet firm. This is one of the best exercises for strengthening the muscles of the back and pelvis.

7. Same position, hands clasped on top of head, move the body from side to side slowly, count four with each movement and then rest. In the same position twist the body from right to left.

8. Same position, arms extended horizontally forward, throw them backward in a direct line as far as possible. This may be practiced quickly, or slowly as if carrying a weight.

9. Reclining upon back, flex the knees and sway them from side to side.

10. Same position, flex and thrust the limbs downward alternately.

11. Reclining, face downward, flex knees and sway feet from right to left.

12. Same position, with the help of an assistant, flex and extend the limbs, using resistance.

13. Same position, rest on elbows and sway shoulders from right to left.

14. Same position, elevate the body slowly, resting only on toes and elbows.

15. Recline on back and make hand thrusts, with or without weights, upward, outward, forward and downward.

In all these exercises it is persistent, patient effort that gives decided results. One will not see their effects in one day, nor one week, unless it is in greater freedom of breath. At first soreness may follow the use of muscles unaccustomed to exercise. A wet compress or a warm bath will relieve this. These exercises should always be taken in a loose wrapper and at stated hours. The best time is before the forenoon bath and before retiring at night.

The following is a heresy but nevertheless is a truth.

A pregnant woman, having a comfortable degree of health, *will derive as much benefit by going up and down stairs as by any other exercise*, providing she observe the following conditions:

1. The dress must be loose, light and short.
2. Keep the mouth closed.
3. Fill the lungs with air, hold the breath until the top is reached, and then expel slowly.
4. Stand erect.

Notice what has been accomplished. The diaphragm and abdominal muscles have been brought into action by the deep breath, while the muscles of the thigh, pelvis, perineum and groin are all engaged in elevating the body. Each time the thigh is raised, pressure is made upon the abdominal viscera, which, if there is no outside counteracting force, are pushed outward and upward, and with the opposite movement resume their place. The reason *climbing stairs* may injure women is, that with each upward movement, as the bowels are pushed out, they come in contact with the outside constricting pressure of corset and bands. Where can they go? Not being able to go outward they must go upward, arresting the breath, or downward, pressing the pelvic viscera upon the perineum. Is it not unjust to attribute the mischief to the stairs, when all the time it is the clothing that does the harm? Who would ever think of it hurting a boy to go up stairs, even if he takes three steps at a time, and goes up three flights without catching his breath? Dress a girl as sensibly; neither will it hurt her, for really the little anatomical difference in their organization is in the girl's favor.

Going up stairs is the best way to get desired exercise in a short time. A successful, self-educated man of this city said when studying, and his brain became weary and stupid, he left his books and ran up and down stairs three or four times, accomplishing more for himself than by half an hour's walk.

When I was in medical college, some of our lectures were on the fourth floor, and my own room

was also on the fourth floor, and both of these buildings had high ceilings. I used to pride myself in starting at the first floor and running to the top without stopping. I then wore the "American costume," and was nearly as free in my dress as a man. Ever since, stairs have presented no more difficulties to me than the level floor.

A lady told me that with her third child she practiced going up and down stairs on purpose for the exercise. The result was the easiest labor and the best recovery she ever had experienced.

In climbing hills, observe the same rules—*keep the mouth closed*, expel slowly through the nose, and stand erect. Not long since I read a long letter written to boys (and why not to girls as well?) upon running. The writer claimed that the whole secret to be able to run and defy all competitors was to *keep the mouth closed.* Why? Simply because it *forces deep breathing*, forces the use of the diaphragm. Any one can prove this. So with any exercise, but especially in climbing hills or stairs *keep the mouth closed.*

I imagine a gentleman reading this will facetiously remark there is no use giving this order to women if they have a companion. I have climbed the mountains of Colorado, even been to the dizzy heights of Pike's Peak, and I found women observed this rule better than men.

In closing, let me urge and emphasize that the pregnant woman walks, rides, takes gymnastics, climbs hills and stairs, beginning according to her strength, and increasing the amount from day to

day. Upon strength, power and vigor of muscles, largely depends easy labor. Muscles must be fed upon proper food and strengthened by use. Let the diet have a large proportion of nitrates, then make assimilation possible by all conditions necessary for proper digestion, never forgetting that daily exercise is the most important.

CHAPTER XI.

CHASTITY IN THE MARRIAGE RELATION.

"So dear to heaven is saintly chastity,
That, when a soul is found sincerely so,
A thousand liveried angels lackey her."

—MILTON.

Many years ago, while visiting a cousin, a young married woman called with her four months old baby—a thin-necked, bloodless, blue looking child. After she left, cousin observed, "Is it not a shame that young people have so little knowledge? That poor child is suffering because the parents too frequently practice the privileges accorded in the marriage relation. The milk is deprived of its vitalizing and nutritious elements." So little of such matters had come to my knowledge that all she meant was not comprehended. What my instincts had taught me, and what had been seen in animal life, I had no thought this relation ever was frequent, especially during child-bearing.

To this day the picture of that wan, pale baby is impressed upon my memory, its very emaciation, making an eloquent plea for the rights of children. Soon after this, I heard H. C. Wright's lecture upon "Marriage; its Duties and Responsibilities." He urged men and women to transmit the best of themselves to their children, and be certain that offspring were not deprived of vitality and

strength by lustful indulgence. For the sake of improvement and progress of posterity, the life of married people must be temperate. After this I read his "Marriage and Parentage," and also "Unwelcome Child," with increased interest in this subject. At that time the need of such lectures and books was not understood. In long years since, the agonizing cries of heart-broken, suffering women, the terrible death rate of little children have proven that in the marriage relation there is such a perversion of nature, such grievous wrongs committed, that one needs a pen of fire to express the living, burning thoughts, and carry the conviction of truth into the very lives of men and women.

Unless by some divine miracle, the eloquence of a thousand H. C. Wright's can not stay the flood-tide of wrong and injustice now done to women and children under the cover of law.

Among animals, except in rare instances under domestication, the female never admits the male in sexual embrace, unless for the purposes of procreation.

Among some untutored savage tribes this same rule has few exceptions. It remains for the people of the highest civilization, boasting of their moral and religious codes, to hold, teach and practice that sexual union shall occur in season and out of season, averring this to be the fulfillment of nature's law.

Briefly consider different views upon this subject.

First. Those who hold that sexual intercourse

is a "physical necessity" to the male but not to the female.

Second. Those who believe the act is a *love relation*, mutually demanded and enjoyed by both sexes.

Third. Those who claim the relation should never be entered into save for procreation.

Physicians and physiologists teach, while most men and women believe that sexual union is a *necessity* to man, while it is not to woman. That there is implanted in his being demands that can not be restrained without injury to health.

That restraint is followed by absorption of the elements of generation, producing effects not unlike the absorption of pus.

That woman naturally has not so much passion as man, has not so much secretion, also has an outlet in menstruation, consequently has not the same demands nor the same injury if not gratified.

Is this theory based upon truth?

What are the facts from which to infer what men and women *naturally* are?

When woman *only* is taught that virtue is the brightest jewel in her crown, when the popular verdict is that womanliness and modesty are synonyms for repression, when she lives in fear of maternity, and believes restraint on her part prevents vitality of life germs, when, too, erroneous habits in life pervert every function, how can we tell what is natural for her?

Then, on the other hand, with man, when he is taught that virtue is not a manly accomplishment,

when the passions are stimulated by unnatural habits of living, by impure conversation, thoughts, books and practices; can we say this strength of passion is purely natural and healthy?

A. E. Newton says, "They who have ever carefully noted the effects of alcoholic stimulants, of coffee, oysters, eggs, spices and animal food, as well as they who find pleasure in filthy conversations, can not surely, with any justness, charge *nature* with the exuberance of their amatory desires."

We teach the girl *repression*, the boy *expression*, not simply by word and book, but the lessons are graven into their very being by all the traditions, prejudices and customs of society.

What are some of the results of this theory?

Notably, in the first place, we have what is called the "social evil." Women, licensed by men, make a business of prostitution, selling their bodies that this demand—this *necessity*—of the male shall be supplied. In visiting these women, men simply yield to this necessity of their nature; consequently commit no wrong.

Women not having the same demands, by entering this life, or even permitting the act once, violate the laws of their being, and consequently commit a crime; according to the social codes, perpetrate the greatest sin in the criminal calender. They become outcasts. If they fill their lives with the noblest and most philanthropic deeds, this one sin is so foul and rank, is such an offense, they have little hope of remission, even from a just and all-loving God.

Can the fact that men are upheld, their crime even condoned, while women, as partners in this terrible evil, are not only ostracised, but irretrievably lost, be explained in any other way?

Witness the effect of this same theory in the marriage relation! The man who has been accustomed to gratify his passions promiscuously, seeks and marries a lovely, virtuous girl. She is not supposed to have needs in this direction. She has not learned that her body is her own and her soul is her Maker's. She gives up all *ownership* of self to her husband, and what is the difference between her life and the life of the public woman? She is sold to one man, and is not half so well paid. Is it too strong language to say she is the one *prostitute* taking the place, for the man, of many, and not like her, having choice of time or conditions? In consequence she not only suffers physically, but feels disgraced and outraged to the depths of her soul.

She is liable to a chance maternity and the *unwelcome* child is not only deprived of physical vigor, but may be endowed with lustful passions and morbid appetites, if he does not curse his own existence.

At the close of one of my health *conversations* after speaking upon this subject, a lady tremblingly but touchingly gave her experience. She said: "Ladies, when I was married two years I was the mother of a puny, sickly baby; it had required incessant care and watching to keep it alive. When it was only seven months old to my surprise,

astonishment and horror I felt *quickening*, and for the first time, knew I was pregnant again. I was abased, humiliated. The sense of degradation that filled my soul, can not be described. What had been done? The babe that was born and the babe that was unborn were robbed of their just inheritance. Remorsefully and tearfully I told my mother. She says: 'Why, child, you should not grieve; don't you know your children are legitimate?' My whole being arose in protest; I stamped my foot and almost screamed. Although my husband is the father of my children, they are not legitimate. No man-made laws, nor priestly rites can ever make an act legitimate that deprives innocent children of their right to life and health. With sobs and moans reaction came and I fainted in her arms. What was the sequel? Two years more both of these children after a brief existence lay in the 'city of the dead,' and until my husband and I learned *the law* we could not have children to live."

Parties holding the second theory claim that coition is a love act. That it should never occur except when there is mutual participation on the part of both male and female and should be governed and guarded so as to control the creative power.

They claim this act is the emblem of love. By it there is a mutual exchange of subtle elements that gives health and vigor and more firmly cements the union.

Also if the lives of married people accorded to

this theory the demand of the male would be no more frequent than the female.

That it is not possible for the husband to sustain this relation satisfactorily and without injury to himself unless there is reciprocation on the part of his wife. That under this mutual relation there is *no loss* to either party but a mutual compensation.

This theory has its arguments and many times a knowledge of it has saved women from disease and despair.

A woman once consulted me who was the mother of five children, all born within ten years. These were puny, scorfulous, nervous, and irritable. She herself was a good subject for doctors and drugs. Every organ in her body seemed diseased and every function perverted. She was dragging out a miserable existence. Like other physicians I had prescribed in vain for her many maladies. One day she chanced to inquire how she could safely prevent conception. This led me to ask how great was the danger. She said: "Unless my husband is absent from home, few nights have been exempt since we were married, unless it may be three or four immediately after confinement.

"And yet your husband loves you?"

"O, yes, he is kind and provides for his family. Perhaps I might love him but for this. While now, will God forgive me, I *detest*, I *loathe him*, and if I knew how to support myself and children, would leave him."

"Can you talk with him upon this subject?"

"I think I can."

"Then there is hope, for many women can not do that.'

"Tell him I will give you treatment to improve your health and if he will wait until you can respond, *take time for the act, have it entirely mutual from first to last*, the demand will not come so frequent."

"Do you think so?"

"The lives of many prove the truth of this statement."

Hopefully she went home, and in six months I had the satisfaction of knowing my patient was restored to health, that a single coition in a month gave the husband more satisfaction than the many had done previously, that the creative power was under control and that my lady could proudly say "I love," where previously she said "I hate." If husbands will listen, a few simple instructions will appeal to their *common sense*, and none can imagine the gain to themselves, to their wives, their children and their children's children. Then it may not be said of the babes that their "Death borders on their birth, and their cradle stands in the grave."

The third theory, that the sexual relation should never be sustained, save for procreation, has many adherents. It is taught "there are other uses for the procreative element than the generation of offspring"—far better uses than its waste in momentary pleasure. This element when retained in the system, the mental powers being properly directed, is in some way absorbed and diffused throughout the whole organism, replacing waste

and imparting a peculiar vivifying influence. It is taken up by the brain and may be coined into new thoughts—perhaps new inventions—grand conceptions of the true, the beautiful, the useful, or into fresh emotions of joy and impulses of kindness and blessings to all around. It is a procreation on the mental and spiritual planes instead of the physical. *It is just as really a part of the generative function as is the begetting of physical offspring.*"

They claim that men, eminent for grand achievements in fields of science, philosophy, invention, religion and philanthropy, have been men whose lives accorded to this theory, referring us as illustrious examples to Plato, Newton, Lamb, our own Irving and Whittier, and always remembering the humble Nazarene.

They also claim that to woman belongs the "creative power," that she must choose when a new life shall be evolved, and only by adhering to this law will she be able to be protected in the highest function of her being—the function of maternity. Mrs. Chandler in her able pamphlet entitled "Motherhood," says: "Every mother from the hour when the new life commences, is overshadowed by the Most High, and, could she understand her needs and powers, and secure to herself respect due to her sacred office, and, free from all polluting intrusion upon herself, bathe her spirit in the influxes which the life within attracts, very rapidly would disappear the loathsome deformities, the discordant spirits now blotting the fair proportions of humanity."

She claims that in the scripture statement in reference to the parents of the child Jesus, that Joseph "knew not" Mary from the hour when the announcement of the new life was made until the birth of the child, is involved a deeper and more important meaning than the Christian world or the medical profession has discovered. That this "undisturbed maternity," which was essential to the ushering in of the Prince of Peace, is equally in all cases "a vital and indisputable necessity for the salvation of humanity." Motherhood, she feelingly urges, should be a shrine unpolluted by one touch of selfishness or lust. O woman! This would be thy recompense for all the sufferings and agonies which pertain to physical womanhood and motherhood."

It is encouraging for those who believe this thought to know that not only women but men standing high in learning and literature espouse and teach it. Dr. Cowan's "*Science* of a *New Life*," gives what he terms the *law of continence* as a central thought. It is full of practical lessons for married people, and has had a large sale.

Dr. Dio Lewis' work upon "Chastity," in which he teaches the same theory, has been read by thousands. Of this Rev. C. H. Churchill, of Oberlin, says: "It is a book which should find a place in every home, and should be carefully read especially by the young."

The groundwork of A. E. Newton's pamphlet, entitled "*The Better Way*," is that only through continent lives can we hope for progress.

"*Plain Facts*," by Dr. Kellogg, has had an immense sale. He, too, teaches the same thought.

Note, all these books are written by *men*—not by women, with some fancied wrongs to redress; but by men strongly in sympathy with the needs of the race. They claim that a better and higher generation can only be attained through a practical knowledge of the "law of continence."

At least, this is a subject demanding the serious consideration of scientists, philosophers and philanthropists.

If the law of continence is not the law to govern one's entire life, it seems reasonable that the mother should be exempt from the sexual relation during gestation. The husband should ever be ready to comfort and cheer with his sympathy. He should bear in mind at this time his wife and child need the conservation of all forces, and consequently he should "observe all laws that will *let passion serve and reason reign*."

No one means will palliate the many nervous symptoms of pregnancy more than by observing the law of continence. I have known women whom not only a touch or a kiss would make irritable during pregnancy, but also would cause nausea and vomiting.

Of what use is it to teach the young lessons of purity and morality, when by prenatal culture, they have graven in their very lives lessons of prostitution? Many men violate this law of reproduction through ignorance. Were they taught the results,

and how to live lives of self-control, many would gladly accept the lesson.

To live continent lives, avoid food containing aphrodisiac stimulants, such as coffee, eggs, oysters, and animal food. *Omit the evening meal;* to live a continent life, this stands paramount to all other means. Let the life be temperate in every respect, and with a strong will the victory can be won. "Remember that it is the action of the *mind* chiefly, that stimulates excessive seminal secretion." The husband being the devoted lover, with similar untiring, delicate attentions, can attain the same self-control he practiced during courtship. The wife will more surely retain her health and youthful charms in bearing welcome children. Women will rejoice in a glad maternity, and a higher, nobler and more God-like posterity will people the earth.

A few months since I read a paper before a Medical Association, entitled, "The Hygiene of Pregnancy." In it were sentiments similar to the above. It had been written hesitatingly, expecting sneers only from the men composing that body. Previous to the reading of my paper, the members had taken but little interest in the convention except to promulgate pet theories. The weather was warm, and groups were sitting on the piazzas, smoking cigars, indifferent to subjects under discussion. The reading had not proceeded far, however, when cigars were thrown away, and for the first time the entire convention were listeners. Judge of my surprise when the thoughts expressed received a long and hearty applause. Most of

those men used tobacco, some drank beer, and all ate animal food. They were not the class of men from whom a response to such radical sentiments would be expected.

It has ever since been forced home to me with a strong conviction that most men only need to have the justness of this subject presented to them for them to be convinced of its truth. Men naturally reverence the maternal in woman and if taught that *continence* serves the best interests of motherhood and posterity, would cheerfully accord their lives to it.

A principal of a high school in Iowa said he was a married man many years before he knew the sexual relation was ever sustained during pregnancy. When he learned it, he asserted his whole soul was filled with shame and horror that his sex had no better knowledge of their protective duties relating to maternity.

Those desiring the best reproduction of themselves should learn that:

"Control of appetite is the first step in human culture.

The first right of a child is to be well born.

No man should become a father who can not and will not observe the demands of temperance in all things for the benefit of his child.

Motherhood is the central fact of human life.

Every mother should be set apart during pregnancy for the ante-natal culture of her child."

CHAPTER XII.

VENTILATION.

While pure air is desirable for all persons under every condition, it is doubly so for the pregnant woman. She breathes for two. Nothing is more essential for the healthful nourishment of the fetus than that the blood be thoroughly oxygenated. Everywhere, in railroad cars, streets, shops, public halls and dwelling houses, there is foul air—air that is loaded with exhalations from the lungs, emanations from the body, and is often vitiated with tobacco and alcohol.

Architects and builders pay but little attention to ventilation. They, with occupants, seem to think that the most important purpose of a building is to keep the heat in in the winter and keep it out in the summer.

With every breath a person exhales nearly twenty cubic inches of carbonic gas, which is a deadly poison, at the same time inhales the life-giving oxygen, constantly exhausting the supply. Yet the great fear of drafts, as well as need of economizing heat, causes most persons to breathe the same air over and over again. Gases that are inimical to health and life are constantly inhaled. If one breathed deeply and only pure air it would atone for violation of many other physiological

laws. The proof of this is seen in the effects of a hunter's or a pioneer's life.

The following, from the *Lancet*, gives some practical ideas upon the ventilation of bedrooms:

"If a man were deliberately to shut himself for some six or eight hours daily in a stuffy room, with closed doors and windows (the doors not being opened even to change the air during the period of incarceration) and were then to complain of headache and debility he would justly be told that his own want of intelligent foresight was the cause of his suffering. Nevertheless, this is what the great mass of people do every night of their lives, with no thought of their imprudence. There are few bedrooms in which it is perfectly safe to pass the night without something more than ordinary precautions to secure an inflow of fresh air. Every sleeping apartment should, of course, have a fire-place with an open chimney, and in cold weather it is well if the grate contains a small fire, at least enough to create an upward current to carry off the vitiated air of the room. In all such cases, however, when a fire is used, it is necessary to see that the air drawn into the room comes from the outside of the house. By an easy mistake it is possible to place the occupant of a bedroom with a fire in a closed house in a direct current of foul air drawn from all parts of the establishment. Summer and winter, with or without the use of fires, it is well to have a free ingress for pure air. This should be the ventilator's first concern. Foul air will find an exit if pure air is admitted in sufficient quantity, but it is not certain

that pure air will also be drawn away. So far as sleeping rooms are concerned it is wise to let in the air from without. The aim must be to accomplish the object without causing a great fall of temperature or a draft. The windows may be drawn down an inch or two at the top with advantage, and a fold of muslin will form a 'ventilator' to take off the feeling of draft. This with an open fire-place will generally suffice, and produce no unpleasant consequences, even when the weather is cold."

While the open fire-place, 'tis true, gives splendid ventilation, at the present price of fuel it is a luxury not within the reach of most people. However, even at greater cost than at present, to many the gain in health would be so great, expense would be saved in other directions.

Recently there have been open stoves constructed on a new principle, that are very desirable. They are cheerful and decorative in appearance, equal to other stoves for cleanliness, economical of heat, and what is so needful in every dwelling, furnish a constant change of air—are in themselves ventilators.

One building a new house can easily have ventilation by making a dry well of good dimensions in the yard and filling it with coarse charcoal. Should have an air-shaft leading to it and one from it into the house. The air from it must go directly to the furnace. Should be so constructed that water will drip slowly through the charcoal. In this way the moisture and charcoal purifies the outside air, freeing it from dust and smoke, while

the pit cools it in the summer, and modifies the temperature in the winter. Better air is obtained than if let in by windows and doors.

The house should have flues for the escape of impure gases. Common grates will answer the purpose. An abundance of pure warm air is constantly supplied.

In regard to fresh air in sleeping rooms, Dr. James H. Jackson says:

"There appears to be a want of a clear understanding of the difference between the terms fresh air and pure air, and many persons do not seem to comprehend that the air of a room may be both pure and warm. They seem not to know that the temperature does not affect the purity of the air so long as there is opportunity for proper circulation. Pure air is not necessarily cold, nor is cold air always pure. In order to have good ventilation, provision should always be made for a *circulation of air*. It is not sufficient to provide an entrance for outside air; exit through an opposite door or window or flue should also be secured. A good way to do this is to let down a window two or three inches at the top, and the air thus let in becomes somewhat warmed by the heat of the room which rises. Here then you have warm fresh air. Now bad air, being loaded with carbonic acid gas, sinks to the bottom of the room. Some way must therefore be provided for its escape. A transom near the bottom of the door would answer the purpose; an open fire-place furnishes an outlet for impure air, or if both these are wanting, the door may be

left slightly ajar, or a simple and inexpensive ventilator may be made by fitting into the stove-pipe, above its damper, another piece of pipe that shall be cut off within two inches of the floor; this pipe also to be provided with a damper which can be opened at will. A very effective draft is thus created near the floor, which takes all foul air up into the chimney.

"I do not approve, on the contrary I condemn tha habit of sleeping, even in the coldest weather, in a small room, windows closed, weather strips on the doors and sashes, and every possible device used to keep out the outside air. In such a room one must necessarily respire the same air many times, and the fact that it is cold does not make it the less injurious. Nature throws off by the breathing process certain poisonous elements which to re-breathe and re-absorb is most pernicious. No one who is not robust should sleep in a room so cold that the windows and doors must all be closed to keep warm. A much more healthful way is to have the temperature of the sleeping room the same as that of the living room; under no circumstances do I deem it advisable for an invalid to sleep in a room that can not have pure, warm air.

"Remember that the important point is *circulation*, and that this may be had without letting in a great volume of cold air. Drafts upon the person should of course be avoided."

A small amount of outside air can be let into a room by raising the window four or five inches and fitting a board at the bottom. There is a space

left between the sash that allows some air to enter and that without a draft. This, however, is not sufficient in a small bedroom, unless for the coldest weather. To test the condition of a sleeping room, leave it closed in the morning, go in the fresh air ten or fifteen minutes, return to the room and if the air seems less pure than the outside air, the ventilation is imperfect.

"The nose is a sentinel to warn us of danger." It should be educated to tell the condition of the air we breathe. What a benefit to mankind if some one would invent a gauge to determine the amount of impurities in the air, as heat is tested by a thermometer. Would it not on many occasions give us startling revelations?

To aid in improving the air of a house, and especially of a sleeping room, we have a safe, efficient and economical means in the use of unslaked lime and charcoal.

A small box or basket of charcoal and unslaked lime, should in fact, be placed in every invalid's room, or in one where children sleep in their cradles, for the purpose of absorbing the carbonic acid gas of the lungs, and the effluvium of the human body.

The discovery of this simple method is attributed to Dr. Bonizzardi, of Italy. He claims, "That people die much more rapidly through the deleterious effects of miasma and carbonic acid gas than by the want of oxygen in the air. To prove his theory, he put three fowls on a perfectly even floor, under three glass cases, and placed in the

case containing the first bird a piece of unslaked lime, in the second one some pieces of charcoal, while the third contained nothing but the fowl. In half an hour after the birds were confined he examined them, and found that the animal in the second case, that containing charcoal, though less vivacious than when it was imprisoned, was quite active, and showed no sign of suffering; that the first, in the case containing the unslaked lime, was almost in agonies; while the one in the empty case was dead. The latter creature, not having any lime to absorb the carbonic acid gas of the lungs, nor charcoal to collect on its surface the effluvium of the surrounding air, died of blood poisoning, which was produced solely by the action of the carbonic acid expelled from the lungs, and the effluvium of the close atmosphere in which it was placed.

"The fowl that was supplied with the lime was only quite ill, because the lime had removed one of the causes of death by absorbing the carbonic acid gas, while the bird confined in the case containing the charcoal was only slightly indisposed or ill, because the charcoal absorbed all the exhalations of the lungs and body.

"These experiments prove that people die far more quickly from the deleterious action of miasma than from any deficiency of oxygen in the air. The moral of these experiments is: That a small basket of charcoal should be placed in the room, and even in the bed, of every invalid, in order that it may absorb the carbonic acid gas

floating in the air, and thus rendering the atmosphere purer and more wholesome."

Rest.—A daily *siesta* ought to be taken by the pregnant woman. Even if she feels well and is not accustomed to rest during the day, it would be far better for her to take it regularly. She should plan for it as for any other duty, and will gain by the ability to accomplish more.

Near noon is the best time for resting; let it follow the bath, if taken. Then she is refreshed for her dinner and afternoon occupations. This habit can not be too religiously observed. If she can rest better alone, she should go by herself, and never be disturbed. Some people can sleep better to lie down, where others are talking or reading. The hum of voices quiets them by diverting their own thoughts. I knew one mother that could only get a nap in the day-time, even if she had been deprived of much sleep, by lying down in the room where her children were playing. Nothing they could do, except to quarrel, would disturb her. They could laugh, sing, scream and jump—she would sleep soundly, but if one wrangling word passed between them she was instantly aroused.

Do not acquire the habit of sleeping in a chair; more speedy restoration is given to lie flat upon the back, without a pillow.

In summing up the hygienic conditions that will give to a woman the greatest immunity from suffering during pregnancy, will prepare her for a safe and comparatively easy delivery, and insure a

speedy recovery, it must be remembered that her DRESS must give,

1. Freedom of movements.

2. Absence of pressure upon any part of the body.

3. No more weight than is essential for warmth, and both weight and warmth be evenly distributed.

4. While decoration and elegance are desirable, they should not sacrifice comfort and convenience.

These requirements necessitate looseness, lightness and warmth, which can be obtained from the Union under-clothes, a princesse skirt and dress with a shoe that allows full development and use of the foot.

LET THE DIET be light, plain and nutritious. Avoiding foods that contain a great amount of carbonates and phosphates, relying mainly upon fruits, and those rich in nitrates. Bilious and inflammatory conditions are overcome, the development of bone in the fetus lessened, and muscles necessary in labor nourished and strengthened.

EXERCISE should be sufficient and of such a character as will bring into action gently every muscle of the body; but must particularly develop the muscles of the trunk, abdomen and groin that are of special importance in labor. Exercise more than any other means assists assimilative processes and stimulates the organs of excretion to healthy action they should be taken faithfully and systematically.

Bathing must be frequent and regular. Unless in special conditions better results are obtained from

tepid or cold bathing, which invigorates the system, and overcomes nervousness. The sitz-bath is the best therapeutic and hygienic measure within the reach of the pregnant woman.

Living much of the time out of doors and always having abundance of pure air in the house, with regular rest and immunity from the sexual relation, conditions have been made to overcome many of previous infractions of law, as well as giving a healthy, natural, painless parturition.

Then pregnancy, by every true woman will be desired, and instead of being a period of disease, suffering and direful forebodings, will become a period of health, exalted pleasure and holiest anticipations. Motherhood will be deemed the choicest of earth's blessings; women will rejoice in a glad maternity and for any self-denial will be compensated by healthy, happy, buoyant, grateful children.

Elizabeth Cady Stanton, in a lecture to ladies, thus strongly states her views regarding maternity and painless parturition:

"We must educate our daughters to think that motherhood is grand, and that God never cursed it. And the curse, if it be a curse, may be rolled off, as a man has rolled away the curse of labor; as the curse has been rolled from the descendants of Ham. My mission among women is to preach this new gospel. If you suffer, it is not because you are cursed of God, but because you violate his laws. What an incubus it would take from woman could she be educated to know that the pains of maternity

are no curse upon her kind. We know that among Indians the squaws do not suffer in childbirth. They will step aside from the ranks, even on the march, and return in a short time bearing with them the new-born child. What an absurdity, then, to suppose that only enlightened Christian women are cursed. But one word of fact is worth a volume of philosophy; let me give you some of my own experience. I am the mother of seven children. My girlhood was spent mostly in the open air. I early imbibed the idea *that a girl is just as good as a boy*, and I carried it out. I would walk five miles before breakfast, or ride ten on horseback. After I was married, I wore my clothing sensibly. Their weight hung entirely on my shoulders. I never compressed my body out of its natural shape. When my first four children were born, I suffered very little. I then made up my mind that it was totally unnecessary for me to suffer at all; so I dressed lightly, walked every day, lived as much as possible in the open air, ate no condiments, and took proper care of myself. The night before the birth of the child I walked three miles. The child was born *without a particle of pain.* I bathed it and dressed it myself, and it weighed ten and one half pounds. That same day I dined with the family. Everybody said I would surely die, but I never had a moment's inconvenience from it. I know this is not being delicate and refined, but if you would be vigorous and healthy, in spite of the diseases of your ances-

tors, and your own disregard of nature's laws, try it."

Every woman can not attain to as perfect health as Mrs. Stanton, for all have not as good conditions of heredity, nor did all learn early that a "Girl is as good as a boy." Mothers in earnest for the best good of their children, will by constant purpose and deliberate effort, approximate the high standard she established, and emulate her example in using the means to enhance desired results.

"For life is not to live, but to be well."

CHAPTER XIII.

PARTURITION.

"The hour arrives, the moment wished and feared;
The child is born by many a pang endured!
And now the mother's ear has caught his cry;
Oh! Grant the cherub to her asking eye!
He comes—she clasps him; to her bosom pressed,
He drinks the balm of life, and drops to rest."

Pregnancy terminates in the birth of the fetus about the 280th day.

A few days preceding labor, there is usually a muco-sanguineous discharge from the vagina.

This is called the *show*. It indicates dilatation of the cervix and relaxation of the vagina. This is often accompanied by *malaise* and restlessness.

In 96 per cent. of all cases, the head is the presenting part. At first the long diameter of the head is in the oblique diameter of the pelvis, as it passes in the inferior straight, turns so as to lie across from back to front, the chin presses upon the breast, and the crown of the head advances.

Labor is effected by contraction of the uterine and abdominal muscles. In the first stage the *cervix uteri* is dilated. In the second, expulsive efforts occur, causing the advance and birth of the child. The action of the uterus in expelling the fetus is analagous to that of the alimentary canal

in expelling its contents. In each case the abdominal muscles powerfully co-operate with the peristaltic action of the organ. The uterine contraction, once established, continues intermittently until the contents are expelled. These contractions are usually attended and recognized by pain. They are called *labor pains.* There is no doubt that the slightest pain attendant upon labor is abnormal. It has been shown in other chapters that most women can approximate a condition in which there shall be no suffering in childbirth.

The first pains are *grinding, scattered* and irregular, felt mostly in the anterior portion of the pelvis and groin. Dilatation of the os being affected they are felt in the abdomen. As the head advances there is great suffering in back, hips and groin, with a disposition to *bear down.* This disposition need never be urged by attendants or forced by the patient. Nature indicates all effort essential to progress.

The membranes which enclose the fetus and liquor-amnii protrude through the os when dilatation is effected. These are termed the *bag of waters.* They precede the head, preparing the way for it, and lessening the liability of contusion of the soft parts. These membranes usually rupture with an expulsive effort, before the close of the labor. The uterus then contracts firmly on the body of the child and labor advances rapidly to completion.

The physician requires the assistance of but one attendant besides the husband. This should be an

educated nurse or a friend, who can command herself in emergencies. The old time custom of having a neighborhood party on the occasion of an increase in the family, has happily gone out of date. The conversation should be cheery and foreign to the occasion. Obscene anecdotes and direful childbirth experiences should be avoided. During the entire process of parturition, the patient should have the advantage of pleasant, comfortable and sanative surroundings. Her mind should be free from care and anxiety. The best in the house should be appropriated to her use. Her room should be light and airy. Every necessity and convenience should be in readiness for the occasion. Have an abundant supply of soft rags. They should be large and clean. Remove the seams and buttons. Old sheets torn in quarters are the most desirable. Provide two yards of rubber cloth, a fountain syringe, antiseptic absorbent cotton, glycerine, arnica, ammonia, carbolic and castile soap, olive butter and cosmoline.

Make the bed as if one was going to sleep in it. Place the rubber cloth over the undersheet. Cover it with an old quilt or comfort that will wash easily. Have the bed set out from the wall so that both sides can be used. Prepare the side for the patient that will enable the physician to use the right hand.

Let the patient wear the garments she desires to have on after confinement, having care to protect them by folding back smoothly, and fastening a sheet loosely about the waist. After labor begins,

she should avoid taking any but liquid food. The bladder should be relieved frequently. If the bowels have not been moved within twenty-four hours, let her take a copious enema.

Until the last stage, the patient can assume any position affording the most comfort. Usually, she is inclined to change frequently, sitting, lying, walking and even kneeling. When expulsive efforts occur, she ordinarily prefers to recline upon her back, with knees flexed and hips elevated. At this time, she naturally pushes with her feet and pulls with her hands. A padded box should be firmly fixed at the foot of the bed for the feet. She can grasp the hand of an assistant, or have some reliable mechanical contrivance for her hands. The simplest is a strip of new muslin, ten inches wide, put around the foot of the bed, and tied, leaving it the desired length for a good purchase. In a prolonged labor, the *obstetric harness* is the most valuable assistance. This is a padded belt for the back, with straps extending to the knees and feet. From the knees are counter straps, with handles for the hands. With this simple contrivance, a physician can take a woman through a prolonged labor without any other assistance.

A natural labor needs no manual local interference. Meddlesome midwifery is always to be deprecated. Many authors and teachers recommend support to the perineum in the last stages. This is unnecessary. More ruptures are occasioned by this practice, than leaving it entirely untouched. A Canadian physician asserts that he has attended

1,700 women in confinement, and never had a rupture, and never supported the perineum.

When the head is born receive it in the hand and support it until the shoulders are expelled. If the next contraction does not bring them, put a finger in the axilla of the fetus and make slight traction. The whole body will soon be born. Pass both hands under the child and lay it as far from the mother as possible without stretching the cord. Place it upon the right side, shoulders and head slightly elevated. Wipe any mucus there may be from mouth and nostrils. Cover baby with a warm soft flannel. Make the mother comfortable. Change her position, straighten the bed, put dry cloths to her, give her a drink, etc., leaving the infant *until the pulsation has entirely ceased in the cord.* This will require from ten minutes to half an hour.

Usually as the child is ushered into the world, it sets up a lusty cry, indicating that respiration is established. Crying is not essential, as some authors claim, and the prompt covering usually causes it to desist. If it does not breathe at once, a little brisk spatting on the breast and thigh may establish respiration. If this is not effectual, dash cold water in the face and on the chest. Still failing, artificial respiration must be established. To do this, close the nostrils with two fingers, blow into the mouth and then expel the air from the lungs by gentle pressure upon the chest. Continue this as long as there is hope of life. When pulsation has entirely ceased in the cord, sever about two inches from the

child's navel, using a dull pair of scissors. Following these directions *no tying is essential.*

This method has its advantages. By tying, a small amount of blood is retained in vessels peculiar to fetal life. This blood by pressure or irritation may prevent perfect closure of the foramen ovale, and be a cause of hemorrhage. Besides it must be absorbed in the system, causing jaundice and aphthæ, so common in young babes. This treatment is contrary to that used by most physicians, and there are prejudices existing against adopting it. I first heard of this manner of treating the cord in 1870. It was so clearly explained that I was convinced that leaving the cord untied would result in great gain to the child. Still my education and habit had been to the contrary, and my prejudices prevented my venturing upon the new method. A few years after this I met a German physician who had not tied a cord in eighteen years. He said: "Don't be afraid; your babies will do better, and there is less danger of losing them." I tested it and proved to my own satisfaction that it is the best method. One has only to recollect to wait until the *pulsation in the cord ceases entirely* and sever as before stated.

Rub the baby all over with olive butter or olive oil, lay it in its crib, cover it warmly and leave it to rest and sleep. *By no means wash and dress as soon as it is born.* Consider the marvelous change that has taken place in all its functions. Respiration is established, and the blood, instead of going to the placenta for oxygenation, goes to the

lungs; the stomach and all the organs of digestion are brought into action, as well as the skin with its innumerable perspiratory ducts. Give nature time to establish these processes before the system is taxed by being washed and dressed. An Indian papoose might be plunged into water at once without detriment, but no white baby of this country has sufficient vitality to safely undergo this shock. While the baby is resting the mother demands especial attention. Contraction of the uterus will soon be renewed to expel the placenta. There is no definite time for this to be effected. Usually the pains do not recur for half an hour, and it may be two hours before the after-birth is expelled. Should there be no hemorrhage and the walls of the uterus contract, there is no cause for uneasiness.

The placenta does not adhere as often as some suppose. If attached there is seldom danger from delay in removal unless there is hemorrhage.

Contractions of the uterus can be induced by manipulating the abdomen after dipping the hands in cold water, or laying cloths wrung from cold water upon the bowels. Also the patient may blow in her closed hand, or give a slight cough. If there is hemorrhage the vein of the umbilical cord should be injected with cold water. This, in many cases, removes a retained placenta. When the after-birth is expelled it should be burned or buried. The mother then must be bathed in tepid water, sponging carefully back, abdomen, thighs and perineum. Lay a cloth to the vulva wrung from a lotion of arnica, one tablespoonful

to a quart of water. If there is soreness in the pelvic region a compress wet in the same lotion can be worn.

The parturient woman requires no bandage. If a compress is needed a towel can be pinned around to keep it in place. Also if there is discomfort from undue enlargement and relaxation of the abdomen, a bandage applied loosely will give relief. Otherwise no bandage is essential. The common belief that it restores a woman's form is a mistake. She returns to her former size better without than with it. If worn at all snug it is likely to cause inflammation that will produce bloating. It also presses the uterus down in the pelvis and in the relaxed condition of all the parts is liable to cause prolapsus uteri. A parturient woman makes a more speedy and excellent recovery without the bandage.

After the bathing, replace the quilts and cloths with fresh ones. Apply a large cloth to the vulva, make the bed look tidy and leave the patient to rest. The house should be made quiet and every means used to encourage complete repose. If it is night, let the attendants retire, darken the room, the nurse remaining within call.

In case of thirst let her have cold or hot water, weak tea or thin gruel, as she feels inclined. Ordinarily she needs no remedies. Nature simply demands rest. Only a few years since a woman was not allowed to go to sleep until she had taken a bowl of panada and the inevitable dose of castor oil. One woman told me she dreaded the castor

oil more than having the baby. It is unnecessary and likely to produce harm. For a few days torpidity of the bowels is natural, and if forced to action inflammation is likely to result. Do not be influenced to take any drug. Simply rest. Surely at no time in one's life is rest so sweet as it is after passing through the throes of maternity.

CHAPTER XIV.

DIFFICULT LABOR.

In the preceding chapter directions were given for the management of a natural labor. In the chance absence of the doctor, one with presence of mind, possessing this knowledge, can conduct a case satisfactorily. While it is not expected to supplant the place of a physician, or to dwell upon difficult parturition, a few practical hints for emergencies may be of advantage.

One not having had the "fruit diet" and other hygienic measures recommended in the preceding pages, or on account of disease and deformity not having been able to accomplish as much for herself as desired, prolonged and difficult labor may result. In malformations of pelvis, in face or shoulder presentations, placenta previa, etc., surgical interference will be required.

Muscular contractions may be inefficient or the os slow to dilate from rigidity. Caustic treatment so prevalent for ulceration destroys the natural elasticity of the cervix. Severe and prolonged suffering without dilatation is often the consequence. The time must come when people will protest against the burning of mucous surfaces as they now protest against blistering and bleeding, that only a few years since was universal.

The head advancing may meet with resistance from dryness, heat and rigidity of external parts.

The *hot sitz-bath* is the best means to overcome rigidity of both os and vulva, and to relieve pains that are neuralgic in character. Seat the patient in a sitz bath-tub, containing very hot water. Her feet also in a hot foot bath. Envelop her with blankets and increase the temperature of the water as she can bear it. Let her remain until profuse perspiration is induced. Dry her under the blankets and let her lie down without removing them. Sometimes she can remain in the bath an hour with advantage, though a shorter time is usually sufficient. The pains entirely or partially subside and she seldom fails to fall into a refreshing sleep. Local relaxation will be accomplished, the pains assume an effective character, and a speedy termination of the case can be expected. To accomplish the desired result the bath must be *hot*, not warm, and continued until perspiration is induced. When prolonged labor results from rigidity of the soft parts, good and speedy results are sure to follow.

"Notes from Practice," published in a western medical journal, prove the value of the hot bath.

Case 1. Mrs. N— engaged my services for the seventh confinement, stating that I might expect a tedious case as in all previous labors the skill of physicians had been baffled. She had lingered in labor from 48 to 96 hours, attended with convulsions and other distressing symptoms; several times had been delivered with instruments. Summons came for me on a bright June morning at 5 o'clock.

She had had irregular pains all night, was very nervous and had great dread of her sufferings, having no hope of relief for at least two days. I found no dilatation, and pains resembled false pains.

I gave her aconite and cimicifiga hoping to arrest the pains until relaxation could be produced, and left her. At ten o'clock returned armed with one of Dickens' novels for two days pastime. Found the pains increased in severity, attended with rigidity of os, still no dilatation and pressure of uterus upward. Although a woman of great self-control, she could not repress the most piercing screams. Administered a hot sitz-bath, increasing the temperature until most copious perspiration was induced, after which enveloping her in blankets, told her to go to sleep, while I sat down to Dickens. She obeyed orders, slept soundly, having pains about every fifteen minutes and instead of the screams she would exclaim, "What relief!" "Heaven surely can be no sweeter than this rest." "What a blissful change!" I would say, "Don't talk, don't bear down, sleep all you can," and still read Dickens. About one o'clock expulsive pains came on, examination revealed full dilatation of cervix and head advancing. At 3:30 P. M. the child was born, no spasms, no instruments, no medicine after the birth. This is only one of many that I have relieved in the same way, and always find it effectual if there is no mechanical obstruction. I believe this hot bath would save thousands of instrumental deliveries.

She was a very grateful patient, and believes the

same means would have given relief in former labors, as the first symptoms were the same. The only unpleasant sequel in the case was, the novel remained unfinished.

Case 2. Mrs. L—, primipara, aged thirty-three, a severe tedious labor with slow dilatation. Gave the hot bath with the happiest effect, patient, nurse and doctor all went to sleep. Pains continued, accompanied by profuse perspiration, but for two hours did not awaken the patient. Expulsive pains setting in, labor was completed in one hour. It was, however, almost immediately followed by violent hemorrhage inducing fainting. Examination revealed placenta attached, the fibres so closely adhered to the uterus that the least attempt at removal caused the greatest suffering. She pleaded for rest, and while waiting for chloroform the placenta was grasped and brought down in the cervix to prevent its contraction. This gave relief, and there being no symptoms of internal hemorrhage, was left for a few hours. The placenta was expelled in about twelve hours without assistance, and the patient made a rapid recovery. At the time I thought the excessive relaxation from the bath caused the flowing, but I now think it was only exposure of the blood vessels from the partial adhesion of the placenta. Its removal from the body of the womb allowed the organ to contract upon the exposed blood vessels and arrest bleeding.

The hot bath is also effectual for flagging pains that are annoying and worrying and "seem to do no

good." In such cases the patient takes a long rest after the bath, and real contractions and expulsive efforts may not occur for hours or even days. This gives nature time to overcome all obstacles, and the final termination is more satisfactory.

For insufficient contractions, physicians of all schools administer ergot, cohosh, etc. These cause violent uterine contractions and great expulsive efforts. If the soft parts are relaxed, labor will be facilitated. If not, great injury may be done. Rupture of the uterus and laceration of the perineum are frequently the consequence. The effects after confinement are more disastrous if possible. Among these are violent hemorrhage, puerperal peritonitis, which runs a rapid course, cellulitis, milk leg, nervous chills, gathered breasts, etc.

The following are only a few of the toxicological symptoms of a dose of *ergot* taken by a person in health:

Rigors, pinched pale countenance, extreme anxiety, great fear of death, violent headache with stupor, loss of voluntary motion, spasmodic jerking, sudden paralysis, debility and fainting, cold, dry, shriveled skin, knotted veins, tongue cold, livid and pale, *vomiting violent*, enlargement and pain in the liver, watery diarrhœa, swelling of the limbs with cold surface, *violent*, *cramp-like*, *intermittent pains* in the pelvis and groin, hemorrhage, congestion of the womb, local gangrene.

Macrotis, or black cohosh, causes weak but rapid pulse, pains in the back with debility, rheumatic

pains in the muscles, limbs seem powerless, drawing pains with trembling, great restlessness, headache with soreness of the eyes and base of the brain, heat and pain in the top of the head, dimness of vision with objects floating before the eyes, prickling of the skin, cold extremities, bruised feeling all over, dizziness, sleeplessness, loss of memory, great nervousness resulting in hysteria, vomiting, leucorrhea, hemorrhage, etc. Both of these drugs are violent in their action and poisonous in the doses usually administered. It is rare one recovers entirely from their effects. They cause uterine inflammation, ulceration, displacements, etc., that are accompanied by amaurosis, loss of memory, headache and many nervous symptoms which are attributed to the "last confinement." As one values good health never take these remedies in poisonous doses.

If uterine contractions can not be increased by the hot bath or cold compresses placed on the abdomen, an attenuated dose of the drug will be followed with as speedy results as a cup full of infusion or a drachm of fluid extract and the toxicological effect will be avoided.

PROTEST POSITIVELY and PERSISTENTLY against taking a poisonous dose of ergot or black cohosh. Better wait for nature than suffer the effects that are sure to follow.

INSTRUMENTS will rarely be called in use if women learn the laws of life and obey them.

Even as malformed and diseased as women are, instruments are resorted to far more frequently

than necessary. There is a feeling in the profession that dexterous instrumental delivery often saves women suffering and consequent nervous prostration. Most women, however, have a horror of forceps, and this, with the temporary increased suffering aggravates rather than lessens the prostration. Remember the physician has selfish temptations for instrumental interference. It entitles him to an extra fee, it saves him time and possibly gives him *eclat* as an accoucheur.

In most cases where instruments are now used, speedy results could be obtained from the *hot sitz-bath*, without danger of subsequent difficulties. Occasionally a case may require instruments, but the experience of many successful physicians, especially the women in the profession, prove, that if there is careful preparatory treatment artificial delivery need seldom be called in requisition.

In several hundred obstetric cases in my own practice, instruments were never required where the previous preparation of the patient was under direction.

Women have it in their power to produce such healthful conditions that obstetrical instruments shall be known only in tradition.

CHAPTER XV.

POST PARTEM TREATMENT.

"Mysterious to all thought
A mother's prime of bliss,
When to her eager lips is brought
Her infant's thrilling kiss."

After confinement, the patient should be bathed all over at least once a day. Use tepid water. Sponge and dry a portion of the body at a time, keeping the balance protected. If she is restless or there is heat in the back, it can be bathed several times a day. A compress, too, is often serviceable, worn across the back for two or three hours, followed by bathing and friction. The breasts should be bathed frequently, and the colder the water the better. Three to five days after confinement the patient can be put into a sitz-bath with benefit. Let the temperature of the water be from 85° to 95°. Change the linen of bed and person daily and the napkins every three or four hours. Keep the room light and well ventilated. The temperature of the room should never exceed 70°. A few years since not a ray of light or a breath of fresh air was allowed in the parturient room, and if the woman was to touch cold water it was deemed sure death. In some parts of this country within twenty years the bed even was not changed for nine days after confinement. With frequent bathing

and a constant supply of fresh air the patient will not be sensitive to cold, and inflammation in consequence will be rare.

The vagina must be syringed at least twice a day with water in which there are a few drops of carbolic acid. Use a fountain syringe and have the patient recline over a bed pan. This will keep the parts cleansed, and the carbolic acid prevents septic poisoning. If the bowels do not move naturally by the third or fourth day give an enema, one quart of tepid water. The regimen advised in this book having been followed, one will rarely be troubled with constipation. Beware of cathartics. Most of them have a specific action upon the uterus as well as the bowels and will do harm. This is notably the case with aloes and podophyllum.

Until after the milk is established, the *food* must be simple in character and easy of digestion. Bran or graham gruel is the *very best food* the first day or two. If it has been withheld from the diet during pregnancy on account of the phosphates it contains having a tendency to harden the bones, it should be taken for that very purpose now. Many are prejudiced against graham gruel, yet it has been proven that most women relish it better than anything else after labor.

In the Home of Friendless, Leavenworth, Kan., are many cases of confinement every year. Almost universally the inmates are prejudiced against graham in any form and rarely taste it before confinement. A former matron had been a nurse in a Water Cure. Invariably she brought a bowl of

graham gruel to the mother a few hours after delivery. She never had one express any repugnance for it. To the contrary they would say, "That tastes good"; "That goes right to the spot"; "Can any one eat too much of anything that is so good?" and similar expressions showing there was an actual relish for the dish. The gruel should be made thin at first and without cream or milk.

After a few days it can be made thick like mush and eaten with fruit or cream and sugar. Cracked wheat, barley, oat meal, graham gems, etc., can be added to the diet as desired.

Women have been led to expect more or less constitutional disturbance accompanying the advent of the milk. With the bathing and diet recommended above, even if she has not had the best conditions during pregnancy one hardly realizes any change in the system at that time. *There is no need of milk fever.* When patients were fed on brandy panada, wine whey, strong tea, and beef broth, were kept in unventilated rooms, and deprived of water externally and internally, besides being poisoned with drugs, it was no wonder they had milk fever and were liable to other post-partem diseases.

The child should be placed to the breast several times a day, even if there seems to be no milk. This stimulates secretion, prevents any engorgement, and from sympathetic relation causes uterine contractions. When the breasts become filled and are knotty and tender, bathe them in hot water and have them drawn. If the child does not empty

them sufficiently the nurse or some member of the family should do it. This is better than a breast pump, and can be easily learned by remembering to lap the tongue around the nipple until it meets the upper lip.

MAMMARY ABSCESS, or inflammation of the breast, is often called "gathered" or "bealed" breast. Is usually ushered in with a chill, succeeded by feverish symptoms. Darting pains are felt in the breast which, as the disease progresses, extend to the armpits. The breasts swell, become hard and tender to the touch—even nursing is painful. If pus forms, the skin becomes dark red, the enlarged breast softens, accompanied by a throbbing pain. The patient is nervous, irritable, has irregular chills, night sweats, debility, etc.

When the first threatening symptoms occur, use promptly and thoroughly hot fomentations; wring the cloths from an infusion of Phytolacca, and keep hot with the hot water bottle. If the fresh root can not be obtained use the fluid extract, ten drops to a pint of water. Keep the breast well drawn and persevere in the hot applications; suppuration can usually be prevented.

If there is alternate chill and fever with thirst and throbbing pulse, take internally aconite one drop of tincture, to ten table spoons of water. A spoonful every half hour.

For a constant aching in the bones and soreness of the flesh, take bryonia, dose the same.

Use only liquid food until the disease is surely arrested. Keep quiet and protected from drafts.

Unless the suppuration is very deep the breast should never be lanced.

For EXCORIATED NIPPLES, bathe in a warm borax lotion, two grains to one cup of soft water; after which apply carbolated cosmoline. If the base of the nipple is deeply cracked, before using the cosmoline, wash with a solution of nitrate of silver, one grain to two ounces of water. Protect with a shield while the child is nursing.

For INSUFFICIENT MILK, drink freely of new warm milk. Have it brought to the bed, and drink at least a pint. Take it one or two hours before breakfast.

If milk can not be obtained possessing animal warmth, take new milk, add one tenth water, and heat over a water bath to a temperature of 120 degrees.

Cheese makers testify the addition of water prevents rennet from coagulating the casein. In the stomach also the pepsin can not curd the milk. If it is as warm as the stomach, and does not coagulate, it will be taken up by the absorbents and conveyed directly to the blood, without going through the process of digestion.

Mothers who have a great aversion to milk, for the sake of the child learn to cultivate a decided relish for it. Should not be taken at meals.

Dr. R. P. Harris, in speaking of milk as a diet for delicate mothers, says "Those who with ordinary food invariably fail to nurse longer than a few weeks after parturition, by this diet are capable of making a good nurse out of the mother, and also

of fattening her during the time she is secreting the milk in abundance. When a delicate mother of eighty-six pounds weight, after failing in a month with each of three infants, is enabled by it to nurse a child eighteen months, and gain at the same time nineteen pounds, the diet must be an effective one."

The article next best for promoting the secretion of milk is malta-cocoa. This is made in a beverage like cocoa. Avoid all forms of malt and spirituous liquors. They derange the nervous and digestive systems of both mother and child. Good digestion is usually all that is essential for an abundant flow of milk. The food should be simple but nutritious. Depend upon grains and fruits mainly, and by no means exclude the bran from the wheat flour. The saline elements in the bran not only stimulate digestion, but excite the secretion of milk as well. Try the experiment of feeding an Alderney cow upon fine flour, excluding the bran. By the lack of milk you will prove that in the bran are elements pre-eminently stimulating to lacteal secretions. Oysters eaten raw or slightly cooked are said to increase the flow of milk. Honey, too, often proves invaluable. Eat honey with bread and gems, instead of the carbonaceous butter. It stimulates all the secretions. It is evident that food rich in phosphates are the best to increase lactiferous flow. Therefore study well the food table in Chapter IX, and partake of foods avoided in pregnancy.

In the first days after confinement, if the milk is slow to secrete, apply bruised castor bean leaves.

FOR EXCESSIVE FLOW OF MILK, use once or twice a day hot fomentations upon the breast, and apply cosmoline, in which there is a trace of camphor. Avoid salt and liquid food. Wear folds of cotton batting over the breast.

Either in insufficient or excessive flow of milk, guard against clothing pressing upon the breasts or surrounding parts. It is absolutely essential the blood circulates freely to and from them.

AFTER PAINS are caused by the contraction of the uterus. It is not true that women never have them with the first child and always have them subsequently. Like most of the sufferings of maternity, they are the effect of abnormal conditions. Women, who, in two or three confinements, have suffered days with after pains, threatened with spasms and getting no relief except by chloroform, have from the "fruit diet" been delighted to recover without a twinge of pain.

After pains usually occur periodically every ten or fifteen minutes. They are a cramp-like pain accompanied by a feeling as if pricked by many needles. They make one very impatient and nervous, and deprive her of needed rest. They are often the result of poisonous doses of ergot taken during labor. The hot water bag or hot fomentations will usually give relief. Must be very hot and kept hot, consequently dry heat is to be preferred. If relief is not obtained, and the physician is not within call, inhale ether. Do not take it internally.

THE LOCHIA is the flow from the vagina that

occurs after confinement. At first has the appearance of fresh blood, then becomes lighter in color and finally is only a glairy mucous. This varies greatly in amount and duration. As a rule the healthier the woman, and more natural the labor, the less the flow. Cases have come to my knowledge where there was no sanguineous flow and the patient made a rapid recovery.

It is said healthy squaws have no flow of blood with menstruation, or after delivery. If there is no constitutional disturbance, there need be no anxiety about a scanty flow. If caused by a chill, fever or inflammation, etc., prompt attention will be required, according to the disease.

METRORRHAGIA, or profuse flow, often requires treatment before medical aid can be secured. Hot fomentations and hot vaginal injections are the very best applications.

Recently the medical profession recognize that heat is better than cold, to arrest hemorrhage. In surgery, hot water is applied to exposed bleeding vessels. Cases are known where hot vaginal injections have instantly arrested bleeding, that had resisted applications of ice, styptics and the tampon. An old lady in Michigan, during the menopause, was taken suddenly with violent hemorrhage. For seven days and nights everything was tried in vain to arrest the bleeding. She became cold and clammy, had frequent fainting spells and death seemed imminent. An old nurse came to take care of her over night. She set aside the physician's potions and applications. She filled the big wood stove

with bricks, and as fast as they were heated wrapped them in wet cloths and put them about the patient. That night, she obtained her first sleep after the attack. The hot bricks were kept to her four days and nights. There was no return of hemorrhage. She made a rapid recovery.

If there are clots, retained placenta or membranes, or any foreign growth present in the uterus, they must be removed by surgical interference, before uterine contractions can be effected and maintained.

Pelvic Peritonitis, Puerperal, or child-bed fever.—"There is a word of fear that I shall pronounce when I utter the name of Puerperal Fever; for there is almost no acute disease that is more terrible than this. The small pox itself, which reduces the fairest form of humanity to a mass of breathing corruption, can not be looked upon with greater dread. Child-bed fever, like an inexorable Atropos, cuts the thread of life for those to whom Clotho and Lachesis would give the longest span.

"There is something so touching in the death of a woman who has recently given birth to a child; something so mournful in the disappointment of cherished hopes; something so pitiful in the deserted condition of the new-born helpless creature, forever deprived of those tender cares and caresses necessary for it, that the hardest heart is not found insensible to the catastrophe. It is a sort of desecration for an accoucheé to die."

Thus feelingly writes Prof. Meigs, of Philadelphia, of this disease, the very thoughts of which

strike terror to the stoutest heart. This disease is an inflammation of the uterus and its peritoneal covering, and often extends to the entire membrane lining the abdominal cavity and possibly involves all the pelvic viscera.

The attack ordinarily commences from the third to the ninth day after delivery. Previous to this the patient has seemed all right when suddenly, apparently without cause, she is taken with a chill. Rigors more or less severe extend up and down the spinal column. Clothing does not seem to impart any warmth. Almost simultaneously with the chill, periodical pains will be felt in the womb, and if not much constitutional disturbance, may be taken for *after pains*. Usually, however, they are accompanied by great soreness and tenderness in the pelvis, abdomen soon bloats and becomes tympanitic, the legs are flexed to relieve the tension, the weight of the clothes, even, can not be borne. The milk dries up, the lochia cease, there is headache, great thirst, increase of temperature and a quick, wiry or bounding pulse.

All of these distressing symptoms are accompanied by great anxiety of mind and distressed expression of countenance. A dark circle forms about the eyes, the eyes themselves are sunken, the nose pinched and the lips drawn, and the face is flushed or very pale. The course of this dread disease is very rapid. "It will not unfrequently happen that she shall die within thirty-six or forty-eight hours from the onset of the malady, and some cases terminate fatally even in eight hours. They are to

be cured promptly or not at all. Such a malady as this hurries with hot and furious haste to a turn, beyond which there is not and can not be any useful therapia."

Perhaps I shall be condemned for picturing to the sensitive imagination of the pregnant woman the possible dangers of this dread disease. Her attendants will look out for and she should not be led to anticipate it. But "to be forewarned is to be forearmed," and consequently be thoroughly impressed with two things: First, *summon your medical attendant at once.*

Knowing the symptoms you have the indications, don't delay one moment. He better come ten times for a nervous chill or after-pains, if by chance the mistake should be made, than that you should fail once to notify him of an attack of puerperal fever.

Under improved methods of treatment this disease does not terminate fatally as frequently as formerly.

The second reason for writing of this disease is to give the causes so they may be avoided.

First. It is in the inflammatory condition of the system before delivery. If the *fruit diet* has obviated this there is nothing to fear.

Second. The use of ergot in confinement. Puerperal fever following poisoning by ergot is very rapid in its course and soon terminates in gangrene. If this drug were banished from practice, child-bed fever would be rare.

Third. Contusions and bruises from instruments

not handled dexterously, injuries follow causing inflammation.

Fourth. The use of cathartics, tonics, stimulants and other drugs after delivery.

It is within the power of every woman to so regulate her confinement that she shall not be subject to these causes of puerperal fever.

Some late teachers claim that all child-bed fever is pyæmia, blood poisoning, and can not be avoided. Why is it then, it is notably absent in those who have led a hygienic life? Why is it, that those physicians who insist upon preparatory treatment seldom meet with it in their practice? Others, too, claim that the disease is contagious, and that the physician and nurse can convey the germs of poison from one case to another.

Dr. W. S. Playfair, of London, who gives to this disease the name of Puerperal Septicæmia, says: "The whole tendency of recent investigations is daily rendering it more and more certain that obstetricans have been led into error by the special violence and intensity of the disease, and that they have erroneously considered it to be something special to the puerperal state, instead of recognizing in it a form of septic disease, practically identical with that which is familiar to surgeons under the name of pyæmia and septicæmia.

If this view be correct, the term "puerperal fever" conveying the idea of a fever such as typhus or typhoid, must be acknowledged to be misleading and one that should be discarded as only tending to confusion.

According to this theory, the so-called puerperal fever is produced by the absorption of septic matter into the system, through solution of continuity in the generative tract, such as always exist after labor. It is not essential that the poison should be peculiar or specific; for, just as in surgical pyæmia, any decomposing organic matter either originating within the generative organs of the patient herself, or coming from without, may set up this morbid action."

The treatment of peritonitis should be prompt and thorough. Sweat the patient as soon as possible. Place several steaming bricks or boiled corn about her.

Frequent hot enemas by rectum and vagina are beneficial. If gangrene threatens, it is often arrested by the application of a yeast and charcoal poultice. Take any good lively yeast, make a sponge of corn meal and Graham flour, equal parts. When light, add two table spoons of charcoal to one pint, put on to a large cloth covered with thin gauze and lay over the entire abdomen. Must be changed frequently, not allowing it to get dry. An injection should be given per rectum every three hours of weak carbolic soap suds.

The nutriment should be diluted milk boiled, or oat meal gruel. Small pieces of ice fed will be grateful.

These directions followed faithfully accompanied by appropriate remedies—most cases can be saved. Personally, I have had little experience with puerperal fever. In twenty years of general practice,

never had a fatal case outside of the hospital. My experience emphasizes what I have stated, that the hygienic life and habits, and the avoidance of drugs and instruments go far toward preventing child-bed fever. Even if it should be proven that this disease is septic poisoning, a healthy tone of the organs resists the absorption of the foreign agent, which proves a poison.

CHAPTER XVI.

INFANTS—THEIR CARE AT BIRTH.

"What am I?
An infant crying in the night;
An infant crying for the light;
And with no language but a cry."

TENNYSON.

The new-born babe has had a sleep, at least a rest. It has entered upon its new life and all the functions of the body are well established. A new being demands our attention. A tiny waif already evincing a disposition to "make its way" in the world. The first thing to do in lending a helping hand to the little stranger is to give him a bath—this has been done usually by using soap and warm water. Recently it has been found that the *vernix caseosa*, a thick, white, unctious material that usually covers the child and is especially abundant in the axilla and groin, is much more easily and thoroughly removed by cleansing it entirely with some oily substance. For this purpose, olive oil, olive butter or lard can be used. Should be applied with a soft, worn piece of flannel, keeping the child well covered. When it is entirely clean, rub all over with a fresh piece of flannel, and the skin is left in soft, smooth condition.

R. P. Harris, M. D., says: "As the *vernix caseosa* is readily miscible with pure lard, and can be easily

removed by its means, it has become the practice with many obstetricians in the United States to order the infant well anointed, and then wiped from head to foot with soft rags, until all the vernix disappears, and the skin retains an oily trace, not enough to soil the clothing. By this means water is avoided, and with it much risk of taking cold; the skin is left much less sensitive, after the sudden change which it is made to endure at birth, than when subjected to soap and water."

DRESS THE NAVEL with absorbent antiseptic cotton. Put a piece three or four inches square on the left side of the abdomen, just above the navel, the remnant of the cord laid upon it, with its cut end pointing to the left and upward—the cotton arranged to embrace the base of the cord, and another piece of cotton the same size placed over the cord, the whole kept in place by a soft flannel band. This for many reasons is more preferable than dressing with linen, according to the old custom. It absorbs the secretions more readily, making the liability of an unpleasant odor less. It is kept in place better, and the cord comes off much sooner. Can often be entirely removed the fourth day. There needs to be no grease or oil upon the cotton. After the separation of the cord, the navel should be dressed with a little simple cerate or cosmoline, and still use the absorbent cotton.

If there is any *pouching* of the navel, take a piece of thick pasteboard two inches in diameter, wrap it with several thicknesses of linen and place it out

side of the cotton, then apply the bandage sufficiently snug to keep it in place.

The clothing of the child should be soft, warm, light, loose and easily adjusted. Within twenty five years mothers have made great improvement in the clothing of infants. Length of skirts is diminished, long sleeves and high necks are substituted for short sleeves and low necked dresses. Number of garments should be avoided and waistbands dispensed with. The shirt is the most difficult to put on the child; it is next to impossible to keep it in place, and besides it is entirely unnecessary. Make the under skirt of soft flannel after the same pattern as the outside slip or wrapper with long sleeves. Button it in the back. This is both shirt and skirt. Outside of this have another skirt of cotton or wool made in the same way, only the sleeves can be omitted. Outside of these the ordinary slip or wrapper is worn. We have thus secured healthy warmth without constriction. The diaper should be of linen and not pinned too tight. Small squares of old soft linen should be used inside of the diaper the first few weeks while the skin is tender. It is well enough, too, while the child is small, to protect its clothing by laying an extra diaper unfolded inside of its clothing and possibly pinning it loosely over the hips. If the weather is cold woolen socks are advisable from the first. In its waking hours naturally the infant is inclined to use its limbs constantly, and the clothing should not be so long and weighty as to prevent this. Uncover its legs near the fire several times a day, and

let it stretch them to its heart's content. The band need not be worn after the navel has healed so as to require no dressing. It is only a few years ago that mothers thought the band essential until the child was six or eight months old, thinking it would prevent rupture at the navel. Every mother, however, can testify to the almost impossibility of keeping the band *in situ;* that it was quite as likely to be found under the arms or down over the hips, as smoothly pinned around the abdomen. Besides, if kept in place the very pressure of the band weakened the muscles of the abdomen, rendering rupture more liable than if not worn. Save to keep the dressing upon the navel in place it serves no purpose and the child is better off without it.

HABITS OF CLEANLINESS can be taught every child. The clumsy diaper can be dispensed with by the time it is three or four months old. Let the mother practice holding out her baby immediately after nursing it, and it will easily be taught to urinate at this time and also to have a passage from the bowels at a stated time in the morning and evening. The actual comfort secured to mother and child through this condition more than repays for the labor and patience in securing it. Teach your children to be cleanly. "A dirty child is a mother's disgrace." When a child begins to creep and walk the diaper must be pinned tight enough to be injurious in order to keep it in place, and then, too, the amount necessary at this time to absorb the secretions, spreads the legs apart. The bones being pliable actual deformity often results.

"The first week of the child's life it should not be entirely stripped and washed; it is too fatiguing. It must of course be kept sweet and clean, which can be done gently, piece by piece. A very scientific successful man midwife in South Brooklyn will not allow a new-born infant to be washed and dressed till it is twenty-four hours old. He oils it well and rolls it in warm soft wraps, with face only open, puts it to the breast, and orders it to be kept quiet and warm till the second day, when, if the child is vigorous, he allows it to be handled and dressed as the nurse desires; if not quite strong and rested, he sometimes will not subject it to dressing until a week old."

After the babe is a week old, it can be bathed every day or every other day. By the time it is two months old it can be put into a bath daily. Should remain in the water not more than five minutes. The temperature should not exceed 90°, and it is quite as well to accustom it to a lower temperature gradually. Don't trust the hand to determine the heat. Always have a thermometer. Do not bathe a child immediately after nursing. Avoid the use of soap. A child's skin is naturally oily, and should be preserved so. Scrofulous and anemic children are sometimes benefited by substituting once or twice a week an oil bath for a water bath.

NURSING.

"The starting beverage meets the thirsty lip;
'Tis joy to yield it, and 'tis joy to sip."

The true mother will not deny herself the privilege and pleasure of nursing her own offspring.

Whenever the infant shows an inclination for food it should be put to the breast. *It needs no other feeding.* The nursing process aids the mother in that it assists in restoring the uterus to normal conditions. A few years since everybody supposed the baby must be fed artificially the first two days of its life, that there was a break in nature's provision for its sustenance. The consequence was the poor little victim was dosed with all sorts of slops, catnip tea, panada, gruel, cracker water, cream tea, etc., etc. Remember it *needs nothing* but the secretion that is in the breast. This is laxative and removes the meconium from the bowels and the baby thrives upon it.

The mother's milk is the natural food of the child and nothing can fully take its place. Every means should be used to secure and maintain this natural nutriment before resorting to artificial food. If for any reason the mother has not milk for her child, or is separated from the child, then the best substitute is a wet nurse. Her own babe should be near the same age; she should be well and strong and the milk abundant and nourishing.

THE BEST ARTIFICIAL FOOD is cream reduced and sweetened with sugar of milk. Analyses show that the human milk contains more cream and sugar and less casein than the milk of animals. The reduced cream, sweetened, simulates the natural substances. The difference in the quality of cream presents a great difficulty. No rule can be given for its reduction. Most nurses leave it too rich and the child's system is soon deranged.

Instead of cream let new milk stand from four to six hours, take the top off, reduce one half with hot water, to one pint add one tea-spoonful of sugar of milk and one grain of phosphate of lime. When the child is from three to five months old, oat meal, barley or bran gruel can be added instead of water.

Never use arrowroot, corn starch, or flour, these do not digest in the stomach and intestinal derangement is sure to follow. Bran or barley gruel furnishes the phosphates, which are essential to stimulate digestion.

Microscopical examination of the artificial foods prepared and sold for infants, proves many of them deficient in gluten and too abundant in starch to make them desirable nutriment. Children have not sufficient secretion of saliva to convert starch into sugar.

The following extracts from Playfair's Midwifery explains the

"CAUSES OF MORTALITY IN HAND-FED CHILDREN.—Much of the mortality following hand-feeding may be traced to unsuitable food. Among the poorer classes especially there is a prevalent notion that milk alone is insufficient; and hence the almost universal custom of administering various farinaceous foods, such as corn-flour or arrowroot, even from the earliest period. Many of these consist of starch alone, and are therefore absolutely unsuited for forming the staple of diet, on account of the total absence of nitrogenous elements. Independently of this, it has been shown that the saliva of infants has not the same digestive property on

starch that it subsequently acquires, and this affords a further explanation of its so constantly producing intestinal derangement. Reason, as well as experience, abundantly prove that the object to be aimed at in hand-feeding is to imitate as nearly as possible the food which nature supplies for the new-born child, and therefore the obvious course is to use milk from some animal, so treated as to make it resemble human milk as nearly as may be.

ARTIFICIAL HUMAN MILK.—An admirable plan of treating cow's milk, so as to reduce it to almost absolute chemical identity with human milk has been devised by Professor Frankland to whom I am indebted for permission to insert the recipe. I have followed this method in many cases, and find it far superior to the usual one, as it produces an exact and uniform compound. With a little practice nurses can employ it with no more trouble than the ordinary mixing of cow's milk with water and sugar. The following extracts from Dr. Frankland's work will explain the principles on which the preparation of the artificial human milk is founded: 'The rearing of infants, who can not be supplied with their natural food is notoriously difficult and uncertain, owing chiefly to the great difference in the chemical composition of human milk and cow's milk. The latter is much richer in casein, and poorer in milk-sugar than the former, whilst asses' milk, which is sometimes used for feeding infants, is too poor in casein and butter, although the proportion of sugar is nearly the same as in human milk. The relations of the three kinds

of milk to each other are clearly seen from the following analytical numbers, which express the percentage amounts of the different constituents:

	Woman.	Ass.	Cow.
Casein	2.7	1.7	4.2
Butter	3.5	1.3	3.8
Milk-sugar	5.0	4.5	3.8
Salts	.2	.5	.7

These numbers show that by the removal of one third of the casein from cow's milk and the addition of about one third more milk-sugar a liquid is obtained which closely approaches human milk in composition, the percentage amounts of the four chief constituents being as follows:

Casein	2.8
Butter	3.8
Milk-sugar	5.0
Salts	.7

The following is the mode of preparing the milk: Allow one third of a pint of new milk to stand for about twelve hours, remove the cream and add to it two thirds of a pint of new milk, as fresh from the cow as possible. Into the one third of a pint of blue milk left after the abstraction of the cream, put a piece of rennet about one inch square. Set the vessel in warm water, until the milk is fully curdled, an operation requiring from five to fifteen minutes, according to the activity of the rennet, which should be removed as soon as the curdling commences, and put into an egg cup for use on subsequent occasions, as it may be employed

daily for a month or two. Break up the curd repeatedly, and carefully separate the whole of the whey, which should then be rapidly heated to boiling in a small tin pan placed over a spirit or gas lamp. During the heating a further quantity of casein, technically called 'fleetings,' separates, and must be removed by straining through muslin. Now dissolve 110 grains of powdered sugar of milk in the hot whey, and mix it with the two thirds of a pint of new milk to which the cream from the other third of a pint was added as already described. The artificial milk should be used within twelve hours of its preparation, and it is almost needless to add that all the vessels employed in its manufacture and administration should be kept scrupulously clean."

"Never give the child the rubber nipple nursing bottle especially the white rubber, since it contains in its composition the carbonate of lead, which is sure poison—sometimes slow, but none the less sure. I have watched the effects of the white rubber nipple for many years; have known cases of spinal curvature, one of complete humpback, often decayed teeth, innumerable cases of sore mouth, and dysentery or diarrhœa, many times causing death, large indolent boils on the scalp, eruptions behind the ears and in the folds of the neck, in consequence of sucking the rubber nipple. All rubber gum rings and toys should be avoided, indeed, I wish everything made from the white rubber could be banished from the nursery. Any babe can be fed at first with a spoon and in a few weeks it will drink

from a cup or glass. If any artificial nipple must be used one of silver, glass or porcelain can be procured. The black rubber may not be as objectionable as the white. I have known a very good artificial nipple to be made of fine sponge, with cambric linen covering it. A small quill stitched in thoroughly is passed through the center nearly to the cover, and by fitting the sponge over the top of a small sized bottle, it answers a good purpose. The vessels and tubes can scarcely be kept clean of any nursing bottles, and here is another plea for teaching a child that must be fed to drink from a cup or glass." *

A young babe should not be fed more frequently than once in two hours, and by the time it is three months old once in three hours is preferable. Nothing deranges a child's digestion more than irregular and constant nursing. I have seen a mother give her child the breast five times during a half hour's conversation. It is such an unreasonable fallacy to suppose that a child is hungry every time it nestles and frets. Consider the time since it has nursed and look for other causes before giving it the breast.

A baby should be weaned when it is from twelve to eighteen months old. Depends largely upon its development and also upon the mother's condition. Before weaning and for some time after it should be fed upon oat meal, barley meal, wheat meal, or graham bread and milk. The digestive organs are not in a condition for a mixed diet

* Care of Children, Dr. Clemence S. Lozier.

until the teeth are developed. Many a case of summer complaint, diphtheria, convulsions, etc., is due to the meat and potatoes, pie and cake, etc., that the child has been fed upon, which has poisoned instead of nourished the system. This is not all. Meat fed children are cross, irritable and quarrelsome. Some three years since a kind, conscientious mother said: "The greatest trial of my life is that my children quarrel so with each other. I can not understand the reason. Nothing they do annoys me so much, and by teaching, persuasion or punishment I have been unable to change their habit."

Hoping to give her aid, I asked many questions —among other things in regard to diet. She told me they were great meat eaters—her husband and brother must have it three times a day, and the children often scarcely ate anything else. I told her the story of the bear that was kept at the museum in Giessen; when fed on bread only, it was quiet and tractable—even children could play with it with impunity—but a few days feeding upon meat would make it ferocious, quarrelsome and dangerous. She agreed to try the experiment upon her children. I counseled her, as her husband did not dine at home, to make a special dinner for the children. Instead of giving them scraps of cold meat, pies and cake, etc., make them milk toast, tiny graham or corn meal gems, cracked wheat with fruit sauce, fruit puddings, etc. Spare no pains in making it attractive and palatable. Decorate the table with fruit and

flowers, and make the occasions frequent when their own holiday presents of China should be used. Follow this with a light lunch at night, of simple, farinaceous food before the ordinary family dinner. In this way they would not be tempted with the meat only at breakfast and even then, fresh fish, fish balls, omelets, etc., might be made to supplant the platter of steak or ham.

This lady entered into the plan heartily, and although it required study, tact and perseverance, she was more than amply paid. In less than a month she could see a difference in the habits of her children, and in one year afterward she testified that it would hardly be recognized as the same family. The children were cheerful, playful, gleeful and full of spirit—but in place of fretfulness and quarrels, were kind, benevolent and considerate to each other. Besides they seldom had acute attacks of fevers and inflammation.

CHAPTER XVII.

DISEASES OF INFANTS.*

Excoriation of groin and axilla frequently troubles very fat, scrofulous and bottle-fed babies. The surface becomes raw and inflamed, and often painful. Bathe frequently in tepid, soft water, or what often proves better, milk and water. Dry with a soft linen cloth. Or hold the sufferer over a tub or basin, and from a large sponge squeeze tepid, soft water on the affected part. Repeat every two or three hours. This is grateful and healing.

The occasional use of cosmoline is beneficial, or sweet cream in which white clover blossoms have been steeped.

Avoid nursery powders.

If the methods advised fail, scorch flour and apply several times a day.

Should there be eruptions or ulcers use a powder of the following formula:

℞ Scorched Flour ℥j
Powdered Hydrastus 3j

Mix. Apply through a powder bag after each washing.

* The diseases of children treated upon are mainly those for which a physician is seldom called. A few suggestions are also added upon those in which the severity of the attack necessitates attention before medical aid can be obtained.

Sometimes where there is great inflammation attending the excoriation, lay upon the affected part for an hour or two at a time soft cloths wet in a cold lotion of borax, using only half a drachm to a pint of soft water.

Frequent washing and perfect cleanliness are really the best preventions and cure.

Colic is the torture of babyhood, as well as a constant source of paternal and maternal solicitude. It is not considered a dangerous disease, but the sufferings of the little one are a great tax upon sympathetic nerves, and whoever can furnish a panacea for this almost universal infantile complaint, would confer a great boon upon babydom. Severe colics are usually the result of derangements of the liver, and when mothers are badly nourished, the child is frequently born with the trouble. This condition is largely due to a deficiency of nitrates and phosphates in the food. The system is over supplied with carbonates in the shape of starch, fats and sugar, and deficient in elements that build up the tissues, such as gluten, fibrin, albumen, etc. The mother partakes of food that produces an inflammatory condition, and lacks in that which makes muscle, bone and nerve.

The first care of the mother must be to study carefully the food table (Chap. VIII), selecting such articles as fulfill the above requirements. Be cautious about eating of mixed dishes and also of greasy and highly seasoned food.

Let the diet be chiefly of barley, rolled wheat, and

bread from flour of the entire wheat, with the addition of fish, milk and eggs. Fruits can be partaken of freely, avoiding those that are exceedingly acid. It is only when fruit is not eaten all the time, that colic in the child is caused by partaking of it. If it has been eaten freely during pregnancy, it will do no harm during lactation. Until the causes can be removed, palliative treatment must be resorted to.

A colicky baby must be kept warm, avoiding all changes in temperature.*

A rubber bag or bottle filled with hot water and put in the crib will keep a colicky baby, once quieted, asleep for hours. During the paroxysms put the child's feet in a basin of hot water, or place cloths wrung from hot water over its bowels, and if the attack is very severe, a full hot bath will often give relief.†

Avoid giving opiates. They constipate the bowels and derange digestion. In acute attacks fol-

*An interesting account has lately appeared in medical journals entitled, "Incubating Babies." Some physician had charge of foundlings and tried the experiment of keeping them devoid of clothing in ventilated boxes at an even temperature of 80°. They were fed at regular intervals. They slept most of the time. During the waking periods, kicked, laughed and crowed, but seldom cried. He lessened the mortality very greatly and possibly proved to the world that the *hardening* or toughening process is begun too soon for the best vigor of childhood.

†A warm bath, indeed let the cause of "griping" be what it may, usually affords instant relief.—*Chavasse.*

lowing their use the brain and spine are likely to be seriously involved.

Nearly all cordials sold for colic contain opium. Analysis reveals morphine one grain to the ounce in Winslow's soothing syrup.

The following from a daily paper only shows that many medicines are the mother's enemy, instead of the "Mother's Friend."

"The Tewksbury almshouse horror once more calls attention to the frightful abuse of narcotics which the medical profession is to a great extent responsible for. In the Tewksbury child's hospital the nurses were provided with morphine in half-pint bottles! No wonder the babies were kept so still that they died at a rate never before heard of. An idea of the extent to which narcotics are given to infants in English manufacturing towns is gleanable from the deposition of a Hanley chemist before a coroner's jury. He testified that he made up and sold six gallons a day of an article called "Mother's Friend." The stuff contains seven and one-half drops of laudanum to the ounce. With this it is customary to dose their babies so that they shall sleep during the time the young mothers are engaged at the factories. Of course the infant mortality of the place is frightful. In contradistinction to this practice of barbarously working young mothers, Mr. Schneider, the owner of the great Creuzot iron works in France, compels a mother to stay from work for a few months before and after a child is born. For the carrying out of this humane purpose he has created a fund

out of which the wages of the mother during the period of her incapacity are paid."

Convulsions, brain fever, summer complaint, etc., are often the result of the early use of opiates.

For *colic*, some diffusable stimulant is preferable. In mild cases, a few tea-spoonfuls of hot water are sufficient. In others, to six tea-spoons of hot water, add one drop of essence of peppermint. Feed slowly. There is but little objection to the old-fashioned catnip tea, if it serves the purpose.

Give camphor, when the pain is severe and cramp-like, knees flexed, hands and feet cold, face livid, especially if there is diarrhœa. Put one drop of tincture on a tea-spoonful of sugar of milk, mix thoroughly, then add six tea-spoons of hot water. Dose—A tea-spoonful every ten minutes.

Give *chamomilla* when the stools are green and every diaper is stained. The child is very restless, nurses often, constantly desires change of position and attendants. If the homeopathic preparation does not give relief, make an infusion of the blossoms. To six grains of the bloom, pour one gill boiling water. Feed slowly. Four or five tea-spoonsful are usually sufficient.

Any of these preparations, except camphor, are better not to be sweetened.

Give *nux vomica* for constipation or undigested curds of milk in the feces. Child starts in its sleep and throws its head back when it cries. Take one grain of the second homeopathic preparation, add six tea-spoons of warm water, and give every ten

minutes in half tea-spoonful doses. For colic of children and grown people, I have found more frequent relief from this remedy than all others. It promotes digestion, equalizes the circulation and feeds the nervous system. A medical author claims that *nux vomica* develops and equalizes electricity in the system. An occasional dose prevents other attacks. The mother should also take it once or twice a day. She must remember, too, to take sufficient rest and sleep, using every means to promote the best health.

There is no special age when the infant is subject to colic. It occurs more frequently when it is from two to five months old. However I have known children great sufferers from it before they were two weeks old.

CONSTIPATION is not a very frequent ailment of infants, but is occasionally met with and sometimes becomes very obstinate. Usually if nursing, the mother is found to be suffering from the same condition. In such a case, she should follow the directions in Chapter V, and through correct habits in her own system she will doubtless find the child relieved.

Want of regularity in its habits often produces costiveness in an infant. If he is fed or nursed regularly, and held out at the same time of each day, and as he gets older is put upon a chair, he will seldom be troubled with this complaint. It is wonderful how soon the bowels in most cases, by this simple plan, may be brought into a regular state. If by this method, they do not move the

first day or two, use a soap suppository. This is a safe, speedy and certain method of moving the bowels.

Make it by paring a piece of white castile soap round. Should be about the size of a lead pencil, pointed at the end, and two inches in length Moisten in warm water and introduce nearly the whole length. After remaining from one to five minutes it will be expelled and the bowels will be comfortably and effectually relieved.

If the feces are very hard like little balls, it is better to make an enema of castile-soap suds, to one cupful add one tea-spoonful of sweet oil.

Do not begin giving a little baby aperient drugs. Chevasse in his valuable treatise upon the care of children, says: "If you once begin, and continue it for awhile, opening medicine becomes a dire necessity and then woe betide the poor unfortunate child."

Again he says: "Let me urge the importance of avoiding as much as possible giving a babe purgative medicines. They irritate, beyond measure, the tender bowels of an infant and only make him more costive afterward; they interfere with his digestion and are liable to give him cold." If a "regular" makes such a strong protest against purgatives for a child, surely women who have been taught the dire effects of drugs will be glad to use nature's remedies for this trouble. Squeezing cold or tepid water over the child's bowels, followed by hand friction aids to stimulate them to action.

Some advise rubbing the bowels with castor oil

getting thereby the aperient effect without the irritation of an internal dose.

Diarrhœa of infants is nature's first method of removing obstructions and overcoming derangements of the system; and in nine cases out of ten should not be interfered with.

The natural movements are usually thin, and of bright orange color. One author describes them as being of the "consistence and color of mustard mixed for the table." They are nearly devoid of smell, or at least only have a faint, disagreeable odor. Many children at first have from three to six movements in a day. If they should increase to from six to twelve and still not change materially in consistence, color or odor, there is no cause for uneasiness.

Many an attack of sickness is the result of checking a diarrhœa with opiates and astringents. If the discharges become watery, green, attended with griping, or streaked with mucous, blood or grayish, ash color, or chalk color, or have undigested curds of milk then there is cause for demanding attention.

The following are a few leading remedies for this complaint:

Arsenicum.—The discharges are thin, watery, yellow, accompanied by thirst, hands and feet hot. Six pellets every two hours.

Cuprum.—Discharges green, frequent and small with much pain. Six pellets every two hours.

Camphor.—Discharges watery, frequent vomiting, coldness of extremities. Dose one drop rubbed

in one tea-spoon sugar to which add six tea-spoons water. Give a tea-spoonful every hour.

Mercury sol.—Discharges watery, gush out, followed with sinking, have a bad odor. One grain 3rd every three hours.

Mercury Corr.—Green discharges streaked with mucous or blood, accompanied by straining effort. One grain 3rd every four hours.

Veratrum virde.—Coldness of extremities, head hot, thirst, nausea, vomiting. Six pellets every two hours.

Phosphorous.—Odorless, clay colored discharges. Four pellets every hour.

Dysentery is indicated by mucous and blood with straining. It is an inflammation of the rectum and large intestines. Warm flaxseed tea injections after the discharge give great relief. Compresses should be put on the bowels for an hour or two at a time, three or four times a day.

If much fever, a general pack gives great relief.

To pack a child, remove all its clothing, put on its night-dress, lay in the crib on a woolen blanket; wet the night-dress with tepid water, using a sponge; hot bottle to the feet.

Wrap the child closely in the blanket and be sure reaction takes place. Let it lie in this one hour, when it should be sponged carefully and wiped dry. This pack is indicated in any disease of children where there is sufficient fever and heat to produce reaction. Remember the simplest measures are often the most effectual.

The following article I published in the *Sani-*

tarian, July, 1883, and though it applies to children of the second summer mainly, contains useful hints. I reproduce it here:

"This disease is the 'summer complaint,' which is the terror of mothers during the months of July and August. It is an inflammation or irritation of the mucous membrane of the intestines, and by some is called intestinal catarrh. Owing to dentition and change of food, children are more liable to this affection in their second summer. They are then constantly the subject of anxious solicitude by parents and friends.

"If the discharges are only frequent and yellow, unaccompanied by pain or fever there need be no uneasiness felt. It is only an effort of nature to restore normal conditions, and better not be interfered with. Too hastily checking this diarrhœa is often the cause of disease.

"The symptoms of 'summer complaint,' proper, are frequent, watery movements, at first may be green but soon become gray, brown and frothy, and sometimes have a mixture of phlegm and mucous. Sometimes are fœtid, and at times contain undigested food. May or may not be accompanied by pain. Nausea and vomiting are frequent symptoms, and if severe, constitute 'cholera infantum.' The surface of the body is cold, often in a cold perspiration, while the soles of the feet and palms of the hands are dry and hot. Is usually attended with great thirst, and a quick pulse, ranging from 100 to 140.

"Some children are prostrated at once by the at-

tack, losing flesh and strength rapidly, while others keep about many days. Appetite fails, or else there are morbid cravings, often for the very things that increase the irritation. If the disease is not abated, the fever increases, the tongue becomes dry and brown, thirst increases, pulse is more rapid, the strength fails, great restlessness ensues, the brain becomes affected, the patient sinks into coma, and death closes the scene.

"Impure air and improper diet are the principal causes of this disease. Sleeping and living rooms not being sufficiently ventilated, the blood becomes poisoned.

"Children are fed a mixed diet too soon. Rich and high seasoned food that is even unsuitable for adults, except in a vigorous out door life, is given them, and at irregular hours. The delicate organs are overtaxed, and inflammatory conditions produced. When a child is weaned it should be fed upon oat, wheat and corn meal mush, bread and milk, rice, cracked wheat, barley and ripe fruits. Food containing fats, meats, condiments, and tea and coffee should be avoided. Even most of the vegetables are not especially adapted to children.

"Give them simple but nutritious diet, turn them, like colts, out doors, to run and play and you will save yourselves anxiety, save doctors' bills, and best of all, save your children. Blood that is too carbonaceous can be oxygenized by plenty of out door exercise, both by adults and children. The less clothing a child wears in hot weather the better, only I would advise that flannel be worn

next the skin. This will prevent sudden checking of perspiration. By all means let the little children go barefoot. A child that has a sand pile to play in, and is allowed to run barefoot, must be of a very delicate organization if it can have summer complaint. By direct contact with the earth, super-abundance of electricity is carried off, and thus lessens the possibility of inflammation. *The child that spends most of its waking hours out doors, barefooted, seldom gets summer complaint.* He has:

> "'Sleep that wakes in laughing day;
> Health that mocks the doctors' rules;
> Outward sunshine; inward joy;
> Blessings on thee, barefoot boy!'

"In summer complaint, give but little food, and that only in a liquid form. Barley water, rice water, oat meal gruel, bran jelly, lemon jelly and orange whey, are all good. Milk can be used, if relished and digests. All of these must be given in small quantities and at regular intervals. The best drink is soft water. If there is vomiting, a drink made by steeping whole corn, that has been parched, is excellent. Also oat meal coffee is good. The juice of acid fruits are beneficial, and can be used freely. But on no account allow the pulp, seeds or skin to be eaten. Remember very little nourishment can be appropriated. The child often takes food on account of thirst.

"A compress wrung from cold water should be put upon the bowels, allowed to remain for two or

three hours, then remove, and bathe the part in tepid water.

"If there is pain, hot fomentations will be advantageous.

"Under all circumstances avoid opiates and astringents. These stop the discharges without removing the cause and if the disease does not recur in the same form, some other organ is liable to become affected.

"[Full enemas of thin bran tea, given as warm as can be borne, after about every second passage, and then, an occasional small enema, say about half a gill of cool bran tea, to be retained (which can be done by gently pressing the anus with a folded napkin immediately on removing the tube of the syringe), will readily abate symptoms, and promote recovery. Ed.]

"*Keep the child quiet*, in a well ventilated room, or in the open air.

"A bed made of the inside corn husks, stripped fine is the best. A child, sick or well, should not sleep on bed or pillows of feathers. By observing these simple directions, most cases of this dread disease can be saved."

CROUP is liable to attack a child any time from the age of one month, until nine or ten years old. The attacks occur most frequently when about two or three years of age. Nothing will make a mother's heart stand still with alarm and terror more quickly than to hear the hoarse, whistling, sonorous breathing of croup. A few directions will be of service until medical attendance can be obtained

Authors recognize two varieties, the spasmodic and membranous, and recently some speak of diphtheritic croup. In the former, the inflammation does not run so high, and the hoarseness and difficulty of breathing may be reflex in its character, still it is usually attended with some soreness and inflammation of the fauces. Runs its course more rapidly. Little or no fever. Usually the child goes to bed all right, and awakens about 11 or 12 o'clock, with a loud ringing or rasping cough, and some difficulty of breathing. This attack relieved will seem all right through the following day, unless an occasional cough. Usually recurs three or four successive nights and seldom terminates fatally.

In membranous croup, there may be slight hoarseness and difficulty of breathing several days before the attack becomes severe. The mucous membrane of the throat becomes red and inflamed, with a thick, ropy exudation that forms in a membrane, covering the entire fauces. Fever may or may not be present. Symptoms remain much the same day and night. Duration of the disease from two to fourteen days.

The following are a few of the symptoms to distinguish between the different forms of croup:

TRUE OR MEMBRANOUS CROUP.	FALSE OR SPASMODIC CROUP.
Symptoms slight at first.	Severe at first.
Begins any time.	Begins from ten to twelve o'clock at night.
Cough harsh and rough.	Cough loud and ringing.
Voice weak, inclined to whisper.	Voice hoarse.
Always membrane and visible.	No membrane.
No fetor.	DIPHTHERIA.
Membrane lies upon mucous membrane, is loose and can be removed easily.	Fetid breath.
Membrane invades the larynx from below and progresses upward.	Membrane dips down in the mucous membrane.
Is always continuous and glairy.	Is tenacious, firm, adherent.
	Can not be detached.
	Membrane invades the larynx from above and progresses downward, and often is seen in patches.

Many cases of spasmodic croup are relieved entirely by simply using promptly a compress of ice cold water; wearing it day and night, cover well with a small woolen shawl. Apply to the throat only. Renew in one or two hours, if the first application does not give relief. Have known many families with croupy children never to resort to any other means, feeling confident that this would give certain relief.

The following remedy I have used for years with the happiest result. Families that have croupy children keep it in the house, and I seldom have to be called out at night by regular patrons for croup. It can be put up at any homeopathic pharmacy, or obtained by sending to my address

℞ Tartar Emetic, 2d trit. 3ij
Aconite Tincture, gtts ij

Mix. Dry out, triturate half an hour. Put six grains in twelve tea-spoons of water, and give in tea-spoonful doses every ten or fifteen minutes. It is not necessary that the emetic effect of the drug should be secured. It has a specific action upon the air passages, and is an invaluable remedy in many of the acute affections of them. Aconite alone gives relief frequently, and many physicians use no other remedy. The two together in the above preparation have seldom failed me, and as an old friend I recommend it. During the day following the attack give a tea-spoonful of the remedy once in two hours. Keep the child on a light diet and free from exposure.

In membranous or diphtheritic croup, of course, the services of a physician will always be secured if possible. My "sheet-anchor" for both these affections has been proto-iodide of mercury. Of this I give the second trituration in grain doses every two hours. Often give the prescription recommended for spasmodic croup at the same time, a tea-spoonful every twenty or thirty minutes. Other remedies, such as iodine, bromine, nitrate of amyl, bichromate of potassa, phosphorus, etc., are used as the symptoms indicate; but the proto-iodide or bin-iodide of mercury will meet the exigencies of more cases than any other one known remedy. Of course hot baths, hot fomentations and cold compresses must be brought into requisition. I have seen great relief even where the disease seemed in

the last stages from a poultice of fresh phytolacca, (pokeroot) applied to the throat. This is made by pounding the root and mixing it with hot flaxseed or meal poultice. Not being able to procure it, fluid extract can be used.

Diphtheria is now considered an infectious disease, produced by bacteria or infusoria that inoculate the patient. Many claim to be able to cure the disease by local means only, while the invasion is only local, before the entire system is poisoned. A child in robust health will usually resist the infection. The following methods of treatment are highly vaunted for their efficacy. Since they have been known my practice has been mostly in chronic cases and I have not had opportunities to test them. Both of the drugs recommended are invaluable in destroying infusoria, and have been used in the hands of eminent practitioners with success:

"Put a tea-spoonful of sulphur into a wine glass of water and stir it with the finger instead of a spoon, as the sulphur does not readily amalgamate with water. When the sulphur is well mixed, then it is to be given to the patient to gargle, and after gargling to swallow it, and the patient will be out of danger in ten minutes. When the fungus is too nearly closing to allow the gargling, the sulphur, in that case, should be thrown through a quill into the throat, and after the fungus has shrunk to allow of it, then the gargling. If a patient can not gargle, take a live coal, put it on a shovel, and sprinkle a spoonful of flour of brimstone upon it; let the sufferer inhale it by holding the head over it, and the

fungus will die. Sulphur kills every species of fungus in man, beast and plant in a few minutes. A few days ago at Princess Mary's Cottage Home, London, an outbreak of diphtheria attacked fifty of the inmates. One of the lady nurses cured them all by causing the patients to gargle with sulphur and swallow the gargle."

"Take ten grains of permanganate of potassium and mix with one ounce of cold water. As soon as dissolved it must be applied with a rag or sponge, mop or swab, to the whitish places in the tonsils and other parts that have the diphtheria membrane on. Do this very gently, but thoroughly, every three hours until better; then every six hours until well. It does not give pain, but is rather nauseous to the taste. If the tongue is coated white, I mix one drachm of hyposulphite of soda and five drops of oil sassafras in four ounces of sirup made of sugar and hot water, and give a tea-spoonful every one to three hours as needed, when awake. If the tongue is not coated white, I mix twenty drops of tincture of phytolacca in four ounces of cold water and give a tea-spoonful every one to three hours as needed, when awake. The phytolacca is the common poke-root of the South, and, as it loses its strength by drying and age, the tincture should be from the fresh root, or it is worthless.

It is well to apply a little sweet-oil or cosmoline to the outside of the throat to protect it from the action of the air, as the patient must be protected from all danger of getting chilled.

In the beginning of the disease, in mild cases, the above solution of permanganate of potassium is all that is needed, as the disease is local at first, but it rapidly affects the whole system when seated. In the stinking form of diphtheria this solution soon destroys all smell, and in every case it destroys the diphtheria membrane without leaving any bad effect behind."

Convulsions rarely attack very young infants unless from malformation of the heart. Convulsions usually accompany teething, indigestion, whooping cough, fevers, worms, indeed any disease that causes a reflex action upon the brain. Occasionally a child has a convulsion without any premonitory symptom, but usually there will be restlessness in sleep, a rolling of the head, twitching of the limbs with clenched fists, stertorious breathing and heavy, lethargic sleep. From this condition there is suddenly involuntary muscular contractions, rolling of the eyes, frothing at the mouth and the head drawn backward. Whatever is to be done must be done quickly and generally before medical aid can be summoned. First, the mother and attendants must command themselves. Nothing is more frightful than to see a little one in convulsions, but upon no occasion is self-possession more needed. Remember, children rarely die in the first paroxysm.

Get the child into hot water as soon as possible. Don't wait to remove its clothing; put it into a foot-tub or child's bath tub, the water as hot as can be borne, supporting it on two hands. Add from

time to time as much hot water as the hands will bear. It should remain in the bath until relaxation is produced, and have blankets well heated and wrap it in them.

If there is not sufficient warm water in the house for a bath, it is often quite as effectual to take a pitcher of hot water, turn the child upon its face, hold it over a pail, and pour the water on the back of the neck. This is more easily managed than a bath, and often is all that is requisite to bring about relaxation. A bag of hot salt laid to the back of the neck will prevent a return. If there is constipation or irritation in the bowels, give a copious enema of warm soft water. If worms are suspected add a tea-spoonful of salt to one pint of water.

For further treatment, as there are so many different things that will cause spasms, one better depend upon their medical adviser.

CHAPTER XVIII.

ABORTION.

Abortion or miscarriage is the term applied to the death and expulsion of the fetus previous to six months, after that and before full term it is called premature delivery.

The liability to abortion is more frequent at the beginning and during the third month. It is usually produced by occasional loss of blood, which rarely is excessive at first, but from three days to three weeks, increases in frequency and quantity until it absolutely amounts to hemorrhage. The first symptom in some instances is a violent chill. In such cases soreness, heat and pain is soon located in the pelvis and the flowing may be deferred for a few days. One may have continuous pain more or less severe until the embryo is expelled; or it may come up at irregular intervals from day to day for some two or three weeks, there being such complete intermissions that the patient wil hope each time that all danger is over and that gestation may be completed.

The danger to the mother is from hemorrhage, before the expulsion of the embryo, and from retentions of membranes after the fetus is born. These decaying in the uterus, the poison is absorbed in the system and septicæmia is the result.

The *causes* of abortion, both remote and exciting, are numerous. Any disease of the womb that takes away its vitality or prevents its enlargement will result in death of the fetus. Any general disease or condition of the system that results in weakness or feebleness may make the continuance of life in the embryo impossible.

Lack of room in the pelvis and abdomen is a frequent cause of abortion in first pregnancies. This is the result of tight and heavy clothing with insufficient exercise. Remaining too much in-doors and suffering the debilitating effects of impure, heated atmosphere, is also a remote cause. The violation of the laws of sexual congress is another. The recent causes are lifting, straining, a fall, a jar, a blow, a violent cold, or an acute attack of disease, sudden mental emotions, etc. The system so soon takes on any habit that one once having aborted is very liable to a recurrence of the same disappointment in subsequent pregnancies, and that at about the same period. To *prevent* a miscarriage observe faithfully the hygienic rules laid down in this book. Make the best possible conditions for health in every direction. Once threatened with abortion, hemorrhage ever so slight having set in, a woman should by all means take her bed and observe perfect quiet. She must run no risks. Apply compresses and take frequent short, tepid sitz-baths, live on a mild, cooling diet, and the danger may be averted. The principal remedies to be thought of are:

Aconite, if there is a chill or fever with quick

pulse and flow of bright red blood. Six drops of first dilution in a glass full of water; take a tablespoonful every hour.

Secale, cramp-like pains, blood clotted and dark, cadaverous expression of face. Dose: Six pellets every two hours.

Cimicifuga, pain in the back of the neck, aching in the limbs, back and groin, with pressing bearing down. Dose: One grain, second trituration, every two hours.

A woman requires the same attention and treatment during and after a miscarriage, that she requires in a confinement. She should take quite as long to get up from it. A labor at full term is natural; a miscarriage is unnatural, and often requires a longer time for the system to recover from the shock.

A *produced* abortion, whether by drugs, intentional shocks, electricity, or by instrumental interference, either by one's own hand or by the hand of a surgeon, is *feticide.*

Many women have been taught to think that the child is not viable until after quickening, and that there is no harm to arrest pregnancy previous to the feeling of motion; others believe there is no *life* until birth, and the cry of the child is heard.

"The absurdity of the principle upon which these distinctions are founded is easy of demonstration.

"The fetus, previous to the time of quickening, must be either dead or living. Now, that it is not the former, is most evident from neither putrefac-

tion nor decomposition taking place, which would be the consequence of an extinction of the vital principle. The embryo, therefore, before the crisis, must be in a state different from that of death, and that can be no other than life."

When the female germ and male sperm unite, then is the inception of a new life; all that goes to make up a human being—body, mind and spirit, must be contained in embryo within this minute organism. *Life must be present from the very moment of conception.* If there was not life there could be no conception. At what other period of a human being's existence, either pre-natal or post-natal, could the union of soul and body take place? Is it not plain that the violent or forcible deprivation of existence of this embryo, the removal of it from the citadel of life, is its premature death, and hence the act can be denominated by no more mild term than murder, and whoever performs the act, or is accessory to it, in the sight of God and human law, is guilty of the crime of all crimes?

By what false reasoning does she who feels that the life of the babe who draws its sustenance from the snow white fountain, is more precious than all else to her, whose heart is thrilled with a pang of agony at thought of least danger to its life, convince herself that another life equally dependent upon her for its existence, with equal rights and possibilities, has no claim from her for protection? More than this, she deliberately strikes the red hand of murder and terminates its existence with

no thought of wrong, with no consciousness of the violation of law.

The woman who produces abortion, or allows it to be produced, risks her own health and life in the act and commits the highest crime in the criminal calendar, for she takes the life of her own child.

She wrongs the child of its right to its existence.

By a wise provision we are placed in this world for growth, development and preparation for another life. As we leave this life, we must enter the other. In so far as a human being is deprived of this existence, to that extent he is deprived of schooling and preparation for the other life.

Pause for one moment and think of the thousands of stunted, dwarfed beings that are prematurely ushered into an existence that can not be the normal and designed. Were infants to have been born into spirit life, provision would have been made to that effect. That they are born into this life is proof that this world is best adapted for their growth and education.

There can be no harm in preventing the conception of a life, but once conceived it should not be deprived of its existence in that world which in all its appointments is specially adapted to its wants.

What are some of the incentives to produce abortion?

An unmarried woman, seduced under false representations by a man who feels no responsibility for his own offspring, suffers all the shame and con-

tumely of the act and is tempted to cause miscarriage to shield her good name.

Married women who fear maternity will interfere with their pleasures, are guilty of forcibly curtailing embryotic existence.

Others, again, who are poor or are burdened with care or grief, or have licentious or drunken husbands, shrink from adding to an already overburdened existence.

The first class, the girls who have lost their virtue under promise of marriage—are most deserving of sympathy and commiseration, though none receive less. "Let him who is without sin cast the first stone." At the least imputation against a fair girl's character, even the followers of the loving Christ, have so little leniency, so little of the Father's love in their hearts, that they hug their Christian robes to their bodies, lest they be contaminated by the polluting touch of the victim. They "pass by on the other side" and leave the poor broken-hearted child bleeding by the wayside.

The girl's lessons of life and purity have been learned mainly from one she loved and trusted, only to be betrayed. What wonder in her ignorance of the value of life she should be tempted to add a second wrong to the first! She knows the shadow that has darkened her path; she realizes:

"Alas! for the rarity
Of Christian charity
Under the sun."

And if she can conceal the evidence of her guilt,

she may by honest endeavor retrieve her good name, and thus is tempted to produce abortion. *Two wrongs can not make one right.* Before God and her own conscience, the only tribunals that in justice have any right to accuse her, she can not by any act shield herself. When girls are given proper instruction upon the relation of the sexes and understand how to govern and guard themselves, when young men are taught that virtue has as high a meaning for one sex as another, that protective chivalry of which they boast does not imply that they shall force the woman with whom they associate, to the defensive, and that the *paternal* interest in and responsibilities for a child are equal to the *maternal*, then the temptation to produce abortion for the purpose of shielding one's character would not exist.

Of the second class, who produce miscarriage for personal pleasures, there is little to say in extenuation. They may be victims of ignorance or of a false education. The maternal instinct is inherent in every woman's heart. It seems strange that any morbid idea of pleasure could antagonize the natural aspirations to such an extent that she could destroy the viability of her own offspring.

I well remember years ago the wife of a well-to-do lawyer making application to me to assist her out of what she called trouble. She had but one child, and he three years of age, and was surrounded by every comfort a prosperous business man could give. I sought the cause of the unnatural promptings of this intelligent woman's heart. It seems a

trip to Europe was contemplated and planned for in the early summer, and this unexpected and chance maternity would thwart their expectations. With all the arguments I then possessed, I showed her the wrong she sought to do, but nothing seemed to weigh against the proposed trip. She returned the second and third time even, armed with a lawyer's sophistry to endeavor to persuade me to be accessory to the diabolical deed. No doubt one cause of her persistency was fear of trusting her secret to me unless she could persuade me to be an accomplice.

She probably found some one to assist her out of the "trouble" for she took the proposed trip, but I was not astonished to know in three or four years from that time she was lying at death's door with consumption. How many times she produced abortion I know not, but I was told for months she suffered from uterine hemorrhages and in the weakened state of her system a violent cold settled upon her lungs which soon terminated her life. This was the physical result of the crime she had committed.

Of the last class, who have an apparent need to limit the size of the family, what can be said in extenuation of their committing this crime? Shall not the mother, who already has many children, who is herself sick, nervous and prostrated, or else has a husband who is diseased or a drunkard, leaving her the support of the family, save herself more care by arresting the life of the embryo? The heart goes out in sympathy for all such, but even

the most aggravating circumstances can not atone for the crime. The whole nature of every true woman revolts against forced maternity under any condition.

When children are begotten under the most adverse conditions, then indeed a great wrong is committed. Women must learn the laws of life so as to protect themselves, and not be the means of bringing sin-cursed, diseased children into the world. The remedy is in the prevention of pregnancy, not in producing abortion. When men and women have learned the wise control of the procreative functions, then may we hope that children will be begotten in love and unselfishness. It is the undesired and undesigned maternity that is revolting to the nature of woman. As long as men feel they have a right to indulgence of the passions under law, no matter what the circumstances, what the condition of the wife, or the probabilities of maternity, so long will the spirit of rebellion take possession of women and the temptation enter their souls to relieve themselves of this unsought burden. May the day soon arrive when men will learn that even passion can serve reason, and gratification at least should not be sought at the expense of conjugal happiness and *unwelcome children.*

DIETETICS.

In what thou eatest and drinkest, seeking from thence
Due nourishment, not gluttonous delight,
So mayst thou live, till, like ripe fruit, thou drop
Into thy mother's lap; or be with ease
Gathered, not harshly plucked; for death mature.

MILTON.

DRINKS FOR THE SICK.

LEMONADE.

Juice of half a lemon, one tea-spoon white sugar, one goblet water. Grate in a little rind if desired.

HOT LEMONADE.

Is made the same way, only using hot water. Is good for colds and biliousness.

ORANGE WHEY.

The juice of one orange to one pint sweet milk. Heat slowly until curds form, strain and cool. Good drink after confinement.

RENNET WHEY.

One quart milk, almost boiling; two table-spoons prepared rennet, or a piece of rennet which has been soaked in water. Sugar to taste. Stir the rennet into the hot milk; let it stand until cool, then strain.

WINE WHEY.

Pint sweet milk, sugar to taste, add a little cin-

namon. Stir in two table-spoons claret wine. This will thicken the milk, and in about half an hour makes a cooling, pleasant food for one recovering from fever.

EGG LEMONADE.

White of one egg, one table-spoon pulverized sugar. Juice of one lemon, one goblet water. Beat together. Very grateful in inflammation of lungs, stomach or bowels.

GUM ARABIC WATER.

One tea-spoon gum arabic, one goblet cold water; stand until it dissolves. Flavor with juice of lemon, orange or any other fruit.

JELLY WATER.

Sour jellies dissolved in water make a pleasant drink for fever patients.

OATMEAL TEA.

Two table-spoons raw oatmeal to one quart cold water, stand two hours in a cool place, then drain off as it is wanted.

TOAST WATER.

Toast slowly a thin piece of bread till it is extremely brown and hard, but not black. Put it in a bowl of cold water, and cover tightly. Let it stand an hour before using.

SAGO MILK.

Three table-spoons sago, soaked in a cup of cold water one hour; add three cups boiling milk, sweeten and flavor to taste. Simmer slowly half hour, eat warm. Tapioca milk is made in the same way.

FLAXSEED LEMONADE.

Two table-spoons of whole flaxseed to a pint of boiling water; let it stand until cool, then strain and add the juice of two lemons and two table-spoons honey.

Invaluable for coughs and suppression of urine.

TAMARIND WATER.

One tumbler of tamarinds, one pint cold water. Turn water over tamarinds, and let it stand an hour; strain before using. Current jelly or cranberry jelly can be used similarly.—*Mrs. F. Owens.*

BEEF TEA.

One pound lean beef cut into small pieces, put into a bottle without a drop of water, cover tightly and set in a pot of cold water; heat gradually to a boil, and continue boiling steadily for three or four hours, until the meat is like rags and the juice all out. Salt to taste.

Beef tea does not afford as much nutrition as people have been taught. It is readily taken up by absorption, and is desirable where a mild stimulant is required. In fevers and inflammations, bran or oatmeal gruel furnish much more desirable nutrition.

BEEF TEA A STIMULANT, AND NOT A FOOD.

Notwithstanding it has been repeatedly shown that beef tea is not a food, the laity, and to a considerable extent the profession, are slow to be convinced. That patients fed on beef tea slowly starve is a fact, which the analysis only too conclusively supports, and which is sustained by accurate clin-

ical observation. In the *Lancet* for October, 1880, p. 562, Mr. G. F. Masterman publishes an analysis, which shows that beef tea has a chemical composition similar to urine. Beef tea, most carefully prepared, says Dr. Neale in a recent issue of the *Practitioner* (November, 1881), does not contain, including alkaline salts, more than from 1.5 to 2.25 per cent. of solid matters, and such matter is mainly composed of urea, kreatin, kreatinin, isolin and decomposed hæmatin. As a stimulant, beef tea may be, and often is, highly serviceable, but as a means of support during the exhausting drain of a long illness, it does not compare in nutritive value to milk. Dr. Lauder Brunton raises the question whether beef tea, a product of muscular waste, may not under some circumstances be actually poisonous! —*Medical News.*

RICE GRUEL.

Two tablespoons rice; one quart cold water; steep slowly one hour; strain through a gravy strainer; add a little cream and salt. Gruel from rice flour: Wet one tablespoon flour; stir into boiling water; cook five minutes.

CORN TEA.

Parch common corn until browned through, grind and pour on boiling water. Drink with or without cream.

Excellent for nausea, vomiting and diarrhœa.

WHEAT OR BARLEY COFFEE.

Brown wheat or barley thoroughly, and grind. Take two table-spoonsful. Mix with the white of an egg, pour over one quart of boiling water.

When it comes to a boil, set it on the back part of the stove and steep slowly fifteen minutes. A nourishing drink and a good substitute for tea and coffee. When made right is very palatable.

BRAN GRUEL.

Boil half an hour one pint of bran of white wheat, in three pints of water. Strain through a gravy strainer and add a little salt. This is a good gruel for fevers and inflammations. Makes a good drink by thinning and adding lemon juice.

CORN MEAL GRUEL.

One table-spoon finely sifted corn meal wet in cold water. Have one quart boiling water in a gruel pan, dip a spoonful of this thin cold batter into the water, stir, let it boil up, and then add another spoonful, and so on until the gruel is of the right consistence. Let it boil briskly twenty minutes or more. Salt to taste.

GRAHAM GRUEL.

Make like corn meal gruel. Can be strained or not, as desired.

OATMEAL GRUEL.

Sift two table-spoons of oatmeal in one quart boiling water. If the meal is coarse, boil one hour and strain through a gravy strainer.

MILK PORRIDGE.

One and a half table-spoons flour, wet to a paste, stirred in a quart of boiling milk; add a pinch of salt; can be thickened with rice flour, oatmeal, arrowroot, corn starch or the entire wheat flour.

BAKED MILK.

Put half a gallon of milk in a jar and tie it down with writing paper. Let it stand in a moderate oven eight or ten hours. It will be like cream and is good for consumptives and invalids generally.—*Mrs. F. Owens.*

HOT MILK.

Take nine parts of milk and one part of water, and heat to 110° F. in a milk boiler. Sipping this slowly the saliva combines with the milk and this with the added water will prevent coagulation in the stomach; hence will be taken up at once by the absorbents. This is valuable food in morning sickness of pregnancy and for nursing women. Is also good in low fevers and nervous dyspepsia.

The *Medical Record*, speaking of warm milk as a beverage, says: "Milk heated to much above 100° F. loses for the time a degree of its sweetness and its density. No one who, fatigued by over-exertion of body or mind, has ever experienced the reviving influence of a tumbler of this beverage, heated as hot as it can be sipped, will willingly forego a resort to it because of its having been rendered somewhat less acceptable to the palate. The promptness with which its cordial influence is felt is indeed surprising. Some portion of it seems to be digested and appropriated almost immediately; and many who now fancy they need alcoholic stimulants when exhausted by fatigue, will find in this simple draught an equivalent that shall be abundantly satisfying, and far more enduring in its effects."

BUTTERMILK.

Buttermilk when sweet and fresh from the churn, is nutritious and wholesome. It contains about 88 per cent. of water, 4 of nitrogenous food, 3 of sugar, only a trifle of fat, and considerable mineral matter, by some estimated at over 5 per cent. There is also a small amount of lactic acid As a heat producing food, it is poor. There are many forms of dyspepsia in which it "will set on the stomach" when hardly anything else will. Often in fevers this organ becomes rebellious from the effects of large amounts of medicine, and it is then a serious question how to nourish the patient. In such cases buttermilk is often found to be the best food that can be given. In diabetes it may be employed as a chief article of diet to great advantage. Corpulent people, who will not adopt the bread and fruit regimen and take much exercise, may use buttermilk in preference to milk. It may be put in clean bottles and canned or sealed, as in preserving fruit, and kept for a long time. After a little, one becomes fond of the taste and relishes it. It ought not to be allowed to stand till it is bitter before using.—*Dr. Holbrook.*

BUTTERMILK POP.

Put one quart of buttermilk in the milk boiler. When nearly boiling, add two table-spoons flour which have been rubbed with one tea-spoon of milk. Stir until boiling. Good in nausea and heart-burn of pregnancy. Also for nervous dyspepsia. I knew one man that lived on buttermilk pop only, for six months and cured himself of dyspepsia.

CHICKEN BROTH.

In one quart of water boil the dark meat of half a chicken with a table-spoon of rice or barley; skim off the fat; use as soon as the rice is well done. When taken up add a few narrow strips of bread toasted—not too brown.

BROWNED RICE.

Browned boiled rice eaten with boiled milk is excellent in summer complaint.

RICE CREAM.

Thicken a pint of new milk with rice flour to the consistency of cream; sweeten and flavor to taste. Beat the whites of two eggs to a stiff froth, put a half ounce of gelatine to half pint of cold water; when well soaked, place over the fire until the gelatine is dissolved; when cool, beat to a froth with an egg beater; mix with the egg. This is excellent in inflammation of the bowels.

MACARONI SOUP.

Into a quart of boiling water put a handful of macaroni broken into inch pieces. Let it boil an hour, then add two cups of strained stewed tomato, and just before serving pour in half a cup of cream. It is delicious.

FARINA SOUP.

Add to any kind of soup stock one half cup of farina, the same of cream, or an egg well beaten and let it cook gently half an hour before serving.

TOMATO SOUP.

Put one pint of canned or fresh tomatoes, and

one quart of water, in a granite stew-pan. When boiling, thicken with three table-spoons of graham flour mixed with cold water. Add one quart milk and stir until it boils; this prevents curdling. Season to taste.

LEMON JELLY.

Moisten two table-spoons corn starch, stir into one pint boiling water; add the juice of two lemons and one third cup of sugar. Grate in a little of the rind. Put in molds to cool.

LEMON GELATINE.

Soak one ounce of gelatine in a quart of water. When dissolved, pour it in a saucepan and let it come to a boil. Add the juice of three lemons, a little grated rind and one cup of sugar. Strain through a thin cloth, put into molds and set on ice to cool.

SAGO JELLY.

Soak five table-spoons sago in half a pint cold water thirty minutes, then add one cup sugar and two table-spoons lemon juice. Pour over three cups boiling water; boil the whole in a farina boiler one hour; pour into molds, when cold turn out and serve with fruit juice.

SAGO CURRANT JELLY.

Soak five table-spoons sago one hour, in cold water; strain off the water, add half pint currant juice (strained); boil slowly fifteen minutes, stirring occasionally, then add half a cup sugar. Pour into molds, serve the following day without sauce.

Cranberries or other acid fruits can be used. Makes a very tempting dish for invalids.

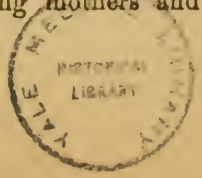
NUTRINA OR BRAN JELLY.

1st. Go to the mill *yourself*, and watch the miller while he gives you clean wheat bran.

2d. Have a kettle of boiling soft water on the stove. Sift in with one hand, stirring briskly all the while, with a paddle or wooden spoon, held in the other, until the mass is about the consistency of a thick gruel. Let this boil slowly two hours. Place a sieve over the top of a pan and pour this gruel in it to drain. When well drained, place the pan on the stove, and allow it to come to a boil. Mix with cold water, a spoonful or so of sifted graham flour, enough to bring the boiling gruel to about the consistence of a smooth gravy, or thick gruel. Dip into molds—coffee cups are nice for this; and allow to become cold, when, if right, it will be a trembling, delicate jelly. Perhaps it will be necessary to experiment a little, as the first trial may not be entirely successful, but depend upon it, the outcome is well worth painstaking.

Nutrina is accompanied with various sauces, and makes a welcome dessert. People who use milk or cream, would like nutrina with a cream sauce. Nutrina can not be too highly recommended, for it suits so wide a range of conditions.—*Dr. Fairchild.*

Nutrina contains the phosphates of the grain, hence is valuable nerve nutritive. Is especially excellent for nursing mothers and children when first weaned.



CEREALS.

All the cereals, even rice, are better to be put to cook in boiling water. This bursts the starch cells at once, and prevents the raw taste and stringy dark look these preparations frequently have. Should not be stirred while cooking, as it breaks the grains and makes them pasty. Do not soak in cold water over night. In cold weather, enough can be cooked to last a family two or three days. They are always better for heating over in a farina or milk boiler. No housekeeper should be without this important cooking utensil. Every table should be abundantly supplied with well cooked cereals.

CRACKED OR ROLLED WHEAT.

In two quarts boiling water, stir one pint cracked wheat. Half tea-spoon salt. Use a farina boiler or double kettle, and cook three hours without stirring. When done mold in dishes. Eat cold with fruit sauce or cream and sugar. Excellent in constipation or biliousness. The rolled wheat is preferable. Not being able to procure it ready prepared, one can crack wheat in an ordinary coffee mill.

OATMEAL MUSH.

Coarse oatmeal should be cooked like rolled wheat. If desired warm for breakfast, can be left in a granite farina boiler over night and heated in a few minutes. Do not soak oatmeal over night, or try to cook it sufficiently in the morning. Fine oatmeal can be made in a mush like Indian meal, and be ready for the table in forty minutes.

INDIAN MEAL MUSH.

Take fine meal of northern corn, a little salt stir slowly in boiling water, until it is as thick as can be stirred easily. Stand it on back of the stove and cook slowly one hour. Is better cooked in a milk boiler.

GRAHAM MUSH.

Stir graham flour in boiling water slowly, until it makes a thick batter. Set on the back part of the stove ten minutes, then beat two minutes and turn into the dish. To be eaten with fruit juice or cream and sugar.

BOILED RICE.

Put two cups of rice to three pints boiling water, half tea-spoon salt. Cook in a farina boiler four hours. It is said the Japanese do not put rice in water to cook it. Simply expose it to steam in a steamer several hours.

BREAD.

"Bread is the representative of human food, because wheat, of which it is made, embraces all the elements of nutrition necessary to build up and sustain every part of the system, keeping it in good working condition and preserving it unimpaired to ripe old age."

Bread to serve the best purposes of nutrition should contain all the elements of the grain. White bread that holds a popular place as an article of diet, is greatly deficient in the nitrates or muscle feeding elements. The gluten of the grain, in which these are found, is removed in the bran.

Besides, fermentation of flour is at the expense of the gluten. Consequently to obtain bread that contains all the elements of nutrition in the right proportion, it must be made from flour of the entire wheat, and not raised with yeast or chemicals. If raised with yeast, the less number of times it is mixed the better. The most popular unleavened breads are gems, muffins and rolls.

GRAHAM GEMS.

Take three cups of entire wheat flour or graham made from white wheat, two cups of cold water, half cup of milk. Omit salt. Heat gem pans very hot on the top of the stove, fill them even full with the batter, place on the grate of a very hot oven. Let them remain ten minutes, then bake thirty minutes on the bottom of the oven. The "acorn" gem pans are essential. These are small, round, deep iron pans. Notice, three things are necessary for good gems: The *best white wheat* flour, *very hot* pans and oven, and the "acorn" gem pans. No beating is required. These conditions observed, the gems will be as light as sponge-cake. They can be eaten warm or cold, but are best heated over in a quick oven. They make excellent toast and puddings.

GRAHAM MUFFINS.

Take one pint of new milk, one pint graham flour or entire wheat flour. Stir together and add one beaten egg. Can be baked in any kind of gem pans or muffin rings. Salt must not be used with any bread that is made light with egg.

HOT WATER ROLLS.

Pour *boiling* water over wheat meal, just enough to make a stiff dough. Stir with a spoon, and as soon as possible mold out, adding as little flour as the dough will permit. Cut these in small cakes, roll them in flour, prick them, and after baking in a very hot oven, brush off this flour, as they are sent light and brown to the table.

All unleavened bread can be made equally as good without milk, requiring rather more heat to brown it.—*Dr. M. A. Fairchild.*

OATMEAL AND GRAHAM GEMS.

Mix equal parts of fine Irish oatmeal into a thick batter, with equal parts of milk and water, fill hot gem pans and bake with a brisk heat. Very sweet and tender.—*Dr. Holbrook.*

WHITE FLOUR GEMS.

Stir briskly into new milk, or milk and water, sufficient flour to make a batter not too stiff to drop from a spoon—much depends on the consistency; experiment only will decide—add the whites of two eggs whipped to a stiff froth and beat all together thoroughly. A little cream put in at the last makes the gems more tender. Bake in hot gem pans in a quick oven.

BROWN GEMS.

Mix with water equal quantities of rye and Indian meal, beat it to a cream, perhaps ten or fifteen minutes, bake in thin cakes in hot gem pans.

BEST GRAHAM BISCUIT.

Make as thick a graham mush by stirring the

flour into boiling water, as is possible, then take it from the stove to the molding board, knead into it more graham flour, roll about an inch thick, cut into biscuits and bake in a hot oven.

LIGHT GRAHAM BISCUIT.

Make the dough of graham yeast bread a trifle stiffer, roll and cut into biscuits. When light, bake thirty minutes.

VERY BEST CORN BREAD.

Wet with cold water, enough corn meal to make a good thick cake on your griddle. It should be nearly half an inch in thickness. Have the griddle very hot, grease it well, or sprinkle with corn meal, and put on your mixture. Allow a good crust to form quickly, but not to burn, then loosen the cake with a large knife, and place over the griddle a large plate, covering the cake. Turn the griddle bottom up, holding the plate in your left hand, and this maneuver will leave the cake, crust side up, on the plate. Now return the griddle to the stove, and slide the cake off the plate, on the hot griddle. This enables you to have a crust on both sides of your cake alike. Bake slowly and thoroughly, for thirty minutes to one hour, turning the cake occasionally.—*Dr. Fairchild.*

DELICIOUS CORN BREAD.

One quart corn meal, partly scalded with one pint boiling water. Add to this, one pint sweet milk, stir to a smooth batter, dip a large cooking spoonful at a time on your hot griddle in separate cakes, let it stand to get the lower crust well started,

then place the griddle in the hot oven, on the top grate, and allow the baking to be finished there. The cake should be a nice brown. About half an hour's time will be required for baking.—*Dr. Fairchild.*

OATMEAL CAKE.

Take one pint of the medium oatmeal, and warm water enough to stir up a batter, like griddle cakes. Pour it into a shallow baking pan or griddle, and bake twenty minutes in a hot oven. Or bake in small cakes on the griddle, first putting in a handful of wheat flour and a little more water.

GRAHAM WAFERS.

Use Akron flour. Mix with pure cold water. *No salt.* Knead thoroughly fifteen minutes, roll very thin, about half as thick as soda crackers; cut in two inch squares, and bake quickly. These will keep for months in a dry place.

It makes them crisp to place them in the oven a few minutes before bringing them to the table.

Better if made by a baker, using the cracker machine.

GRAHAM CRACKERS.

Take one part cream to four parts milk, mix with flour, as soft as can be handled; knead twenty minutes; roll very thin; cut square or round, and bake quickly twenty minutes. Handle carefully while hot; pack away when cool in a stone jar.

BOSTON BROWN BREAD.

Three cups graham flour, one cup Indian meal, one cup molasses, two cups sweet milk, one cup sour

milk, one tea-spoon soda. Steam three hours and bake two hours.

GRAHAM BREAD.

Soak half a cake of compressed yeast, stir it into one quart warm water and two quarts graham flour. Put into a deep sheet iron bread pan. When light, bake one hour or more. If compressed yeast can not be obtained use homemade or baker's yeast. The dough should be as stiff as can be stirred with a spoon. Flour from white wheat contains the most gluten and makes the best bread. Make bread from fine flour of the entire wheat the same way only a trifle stiffer.

YEAST BREAD FROM WHITE FLOUR.

Make a sponge by boiling one pound of potatoes in two quarts of water; stir up a pint of sifted flour as for starch, and pour the boiling water over it, adding the potatoes when well mashed; when cool, add a cup of yeast, or two ounces dried yeast, soaked, and a table-spoon of salt. Make this the day previous to baking; it will save labor to do it at the same time you boil potatoes for dinner.

To make the bread, take three quarts sifted flour, and wet with the sponge, adding no more liquid or salt; knead at least half an hour, keeping the dough soft and warm; put it in the baking pans, which are well greased, and when it is light it is ready for the oven. Bake forty minutes. The dough must be soft and *thoroughly* kneaded.

Graham bread is made in the same manner, only moist enough to stir with a stiff spoon, and does not require the kneading.

The white sponge is used for it. Bake an hour.

RICE MUFFINS.

One cup of boiled rice, two eggs, two cups of milk, two cups of flour. Bake in gem pans or muffin rings.

BUCKWHEAT CAKES.

One quart of warm water, one quart of buckwheat flour, a cup of bread sponge, one tea-spoon salt. Make over night, or will rise in three or four hours in the daytime. Some batter being left will raise cakes the following day.

Buckwheat contains a large proportion of gluten and is very desirable for batter cakes. It has been brought into disrepute for two reasons; first, millers do not take sufficient pains in cleaning it, and leave the smut of the grain in. This is a poison; producing eruptions, etc.; second, too much butter and sirup are consumed with the cakes, supplying to the system a superabundance of carbon. Substitute honey or fruit sauce to make the cakes relish.

GRIDDLE CAKES FROM "SHORTS."

Shorts, or middlings, are obtained in grinding wheat, between the fine flour and bran. These are rich in gluten and, prepared in the same way, make cakes equal to buckwheat.

RICE GRIDDLE CAKES.

One cup boiled rice, one egg, one cup sweet milk, one cup water, two cups of fine flour of entire wheat or "shorts."

CORN GRIDDLE CAKES.

Pour boiling water on a pint of corn meal to

make a stiff batter; let it stand over night. In the morning add one cup of graham flour and one cup of sweet milk. If not light add a tea-spoon of yeast powder; but except in cold weather the corn will ferment sufficiently to make it light. Can be baked in gem pans if preferred.

BREAKFAST PATTIES.

Make a thick gruel of equal parts of wheat and corn meal. Let it stand over night. Add sifted graham flour, or flour of the entire wheat, until the batter is thicker than for batter cakes. Bake as griddle cakes; giving them plenty of time. If just right, most delicious breakfast cakes.

MILK TOAST.

Heat six slices of graham bread in the oven; toast an even brown over coals. Boil one pint of milk and half a cup of cream. Thicken with one tea-spoon corn starch; half a tea-spoon salt. Pour over the toast and serve hot.

GEM TOAST.

Split graham gems, toast the same as the bread above, and cover with the same dressing. This is the best toast made. Is not harmed by standing.

OYSTER TOAST.

Pour stewed oysters over graham gems or bread toasted. An excellent breakfast dish.

COD-FISH TOAST.

Toast graham bread or gems; lay upon a platter and cover with cod-fish prepared in milk.

TOMATO TOAST.

Stew one quart tomatoes; season with one table-spoon sugar and half a tea-spoon salt; pour over graham bread or gems toasted.

EGGS ON TOAST.

Soften brown bread toast with hot water, put on a platter and cover with poached or scrambled eggs.

ASPARAGUS ON TOAST.

Cut the green of one pound of asparagus in one pint hot water. Stew thirty minutes, add half a cup of cream, a little salt, turn over a platter of graham toast.

RHUBARB TOAST.

Take one pint water, half a cup of sugar, when boiling put in two pounds rhubarb cut in small pieces. Stew until done, when cold pour over a platter of hot toasted brown bread, having a little butter upon it. This is an excellent breakfast dish, and as the toast absorbs the peculiar rhubarb flavor, can be eaten by those who usually dislike it.

Gooseberries and tart apples can be prepared in the same way.

NOTE.—Never use white bread for toast when bread of the unbolted or entire wheat flour can be had. The latter never becomes doughy, and is much better flavored, besides being more nutritious.

EGGS AS FOOD.

Eggs, at average prices, are among the cheapest

and most nutritious articles of diet. Like milk, an egg is a complete food in itself, containing everything necessary for the development of a perfect animal, as is manifest from the fact that a chick is formed from it. It seems a mystery how muscles, bones, feathers, and everything that a chicken requires for its perfect development are made from the yolk and white of an egg; but such is the fact, and it shows how complete a food an egg is. It is also easily digested, if not damaged in cooking. Indeed, there is no more concentrated and nourishing food than eggs. The albumen, oil, and saline matter are, as in milk, in the right proportion for sustaining animal life. Two or three boiled eggs, with the addition of a slice or two of toast, will make a breakfast sufficient for a man, and good enough for a king.

According to Dr. Edward Smith, in his treatise on "Food," an egg weighing an ounce and three quarters contains 120 grains of carbon and seventeen and three quarter grains of nitrogen, or 15 25 per cent. of carbon and two per cent. of nitrogen. The value of one pound of egg, as food for sustaining the active forces of the body, is to the value of one pound of lean beef as 1584 to 900. As a flesh producer, one pound of eggs is about equal to one pound of beef.

A hen may be calculated to consume one bushel of corn yearly, and to lay ten dozen or fifteen pounds of eggs. This is equivalent to saying that three and one tenth pounds of corn will produce, when fed to a hen, five sixths of a pound of eggs;

but five sixths of a pound of pork requires about five pounds of corn for its production. Taking into account the nutriment in each, and the comparative prices of the two on an average, the pork is about three times as costly a food as the eggs, while it is certainly less healthful.—*Boston Journal of Chemistry.*

BOILED EGGS.

Eggs should never be boiled. Immersed in boiling water for a few moments the white part coagulates and becomes hard, and more or less indigestible. If cooked at a temperature of 165° for fifteen or twenty minutes the white part coagulates into a tender, delicate, jelly-like substance, which is not only very digestible, but delicious, while at the same time the yolk becomes hard. A little experience will enable any one to do it perfectly.

POACHED EGGS.

In a skillet of salted boiling water, place muffin rings. Drop the eggs in them and let them stand ten minutes without boiling. Remove the rings and the eggs will be nicely molded and evenly cooked.

EGGS POACHED IN MILK.

Take one cup of milk, half a cup of water, when boiling break in six eggs. Cook slowly and serve on toast. A lady told me she cured herself of nervous headaches by eating an egg every morning cooked in this way. The milk prevents the poisonous effect of the sulphur in the egg and the nerves get decided nutriment.

SCRAMBLED EGGS.

Beat six eggs and one cup of milk together. Cook in a buttered skillet, stirring occasionally. Take up before it is quite thickened.

STEAMED EGGS.

Break into egg cups and steam ten minutes.

EGG OMELET.

Beat the whites of six eggs separately. Beat the yolks with three table-spoons of milk and one table-spoon of flour, stir the whites in lightly. Cook in a hot buttered skillet. When the edge is cooked turn over carefully. In two minutes more, double together on a hot platter.

RAW OYSTERS.

It is an old theory that a raw oyster digests itself. This is owing to the diastase or glycogen in the liver. A fat oyster is half liver. Cooking destroys this diastase. So also much vinegar and condiments make it slow to assimilate. Alcohol also destroys the diastase.

STEWED OYSTERS.

Take one pint of milk, one cup of water, a teaspoon of salt, when boiling put in one pint of bulk oysters. Stir occasionally and remove from the stove before it boils. An oyster should not be shriveled in cooking.

BROILED OYSTERS.

Put large oysters on a wire toaster. Hold over coal until heated through. Serve on toast moistened with cream. Very grateful in convalescence

GRAHAM GEM PUDDING.

Take six cold gems, baked the day before, break into small pieces and pour over them a pint of hot water and half cup of sugar; stir in six large tart apples, cut in thin slices. Bake two hours. Other fruits are sometimes used.

CRACKED WHEAT PUDDING.

In a deep pudding dish put layers of cold cooked cracked wheat, and tart apples sliced thin with two table-spoons sugar, one table-spoon raisins. Fill the dish, have the wheat last, add cup of cold water, Bake two hours.

FARINA BLANC MANGE.

Stir into a quart of boiling milk, farina enough to make a thin pudding, then set away to cool. Meanwhile whip the whites of two eggs to a stiff froth and beat into the farina before it is quite cold, with half the yolk of one egg and a little sugar. It is more creamy if not made too thick with farina.

RICE PUDDING.

One quart new milk, two table-spoons rice, two table-spoons sugar, pinch of salt, one tea-spoon lemon extract, or if preferable, half cup of raisins. Bake three hours in a moderate oven.

For summer it is delicious cold. Better made in large quantity.

APPLE TAPIOCA PUDDING.

Soak a tea-cup of tapioca in a quart of warm water three hours. Cut in thin slices six tart ap-

ples, stir them lightly with the tapioca, add half cup sugar. Bake three hours. To be eaten with whipped cream. Good either warm or cold.

INDIAN FRUIT PUDDING.

One pint corn mush, made with water, one pint stewed dried apples, peaches, or prunes, one half pint water, one cup sugar. Stir ingredients well together. Bake five hours.

ORANGE PUDDING.

Pear and slice five large oranges, removing seeds. Lay in a deep dish and sprinkle with half cup sugar, let them stand two hours. Make a custard of one pint milk, yolks of three eggs, two table-spoons corn-starch; when cool pour over oranges. Beat the whites with two table-spoons of powdered sugar and place on the top, brown in oven a few minutes.

CORN MUSH PUDDING.

One quart milk, one pint corn mush, (Page 245), two thirds cup molasses, one tea-spoon cinnamon. Bake four hours.

INDIAN MEAL PUDDING.

Boil one quart of milk, stir in seven table-spoons meal. Take from the stove, add one quart cold milk, one cup molasses, one tea-spoon ground mace. Bake in an earthen pudding dish five hours. Double the recipe makes a better pudding and it is good cold.

FRUIT BLANC MANGE.

Take one quart of any of the rich dark colored

fruits, such as cherries, currants, or berries; after they are prepared for the table as sauce, add four table-spoonfuls of corn starch, and let it cook two or three minutes; then mold as blanc mange. It is nice to put this into a mold in alternate layers with the white blanc mange, or with graham or rye mush. Eat cold with fruit sauce.

PLUM PUDDING.

One cup seedless raisins, one cup currants, one quart chopped apples, one cup sugar, one cup graham flour mixed in a pint of water. Mix all together and bake five or six hours.

STRAWBERRY DESSERT.

Place alternate layers of hot cooked cracked wheat and strawberries in a deep dish; when cold turn out on a platter, cut in slices and serve with cream and sugar, or strawberry juice. Wet the molds with cold water before using.

This makes a dainty dish for the sick molded in small cups.

PIES.

A very palatable pie crust can be made of sweet cream and flour of the entire wheat or sifted graham flour. Should be worked soft, made thin and baked in a hot oven. Eaten the day it is baked. In a dietetic point of view there is little objection to this crust. Any acid fruit can be used for the filling. A crust of fine flour and lard does not make suitable nutriment for sick or well.

PIE FOR DYSPEPTICS.

Four table-spoons of oatmeal, one pint of water;

let stand for a few hours or till the meal is swelled. Then add two large apples, pared and sliced, a little salt, one cup of sugar, one table-spoon flour. Mix all well together and bake in a buttered dish; makes a most delicious pie, which can be eaten with safety by the sick or well.—*Dr. Holbrook.*

STRAWBERRY PIE.

Place the under crust upon a deep plate, and the upper one—cut just the right size—on a flat tin or sheet iron; prick to prevent blistering and bake. Fill the deep dish while hot with strawberries, and cover with the flat crust. If the fruit is rather hard, replace in the oven till heated; if quite ripe, the crust will steam them sufficiently.

Raspberry and blackberry pie can be made in the same way. The flavor of these delicious berries when quite ripe, is greatly impaired by cooking; they are also changed to a mass of little else than seeds and juice.—*Mrs. Cox's Hygiene Cook Book.*

APPLE PIE CAKE.

Mix unbolted wheat flour with cold water, making a batter soft enough to level itself. If shortening is desired use sweet cream. Fill a deep pie-plate a third full of the batter and sprinkle over a little sugar. Wash, quarter, and core tart apples and place as many in the batter (skin side up) as it will hold. Press down and level with a spoon. Over the top sprinkle sugar and bake till brown.—*Dr. Holbrook.*

CAKE.

Cake is hardly considered a dietetic food. A few

recipes, however, are given that experience has proved good, and may be eaten by convalescents or invalids at the sea-side or in the mountains.

STRAWBERRY SHORT-CAKE.

Bake a short-cake the size you want, bake rather thin, about three layers, and put strawberries between, having them mashed and sweetened, then on the top layer, and all about the side of a dish, put your finest large berries. This needs no sauce.

We also make a simple pudding which is well cooked cracked wheat, with the whole berries stirred in when done, and put in moulds. To be eaten cold. Rice, and corn mushes may be treated in the same way.

But best of all, is strawberries and plain unleavened bread. This exceeds in wholesomeness, and really in gustatory delight, all the ways that man has invented to punish strawberries.—*Dr. Fairchild.*

The short-cake should be made of cream and flour of the entire wheat.

GRAHAM CAKE.

One cup sugar, two eggs, half a cup sweet cream, one cup of flour, one tea-spoon baking powder. Bake in a deep tin. Adding currants and chopped raisins and baking in small cake tins, makes a nice children's cake.

EUREKA SPONGE CAKE.

Four eggs beaten with one and a half cups of sugar, two cups of sifted flour, baking powder and lemon extract, each one teaspoon. Beat thorough-

ly together, and add three fourths cup of boiling water. Is very thin, but makes a delicious and wholesome cake. Is good made from white or graham flour. Makes a nice layer cake by baking it in jelly tins.

CORALINE CAKE.

Half a cup of sweet milk, half a cup rich cream, one cup of sugar, one egg, two cups graham flour, one tea spoon baking powder. Bake in two pie tins. When done split open with a sharp knife and fill in with raspberry or strawberry juice that has been thickened with corn starch or gelatine. By using boiled custard for filling it will make what cooks call a French pie.

FRUIT SAUCE.

Boil the juice of any acid fruit, adding an equal part of water. To one pint put one table-spoon of sugar and one tea-spoon corn starch. This makes a clear juice bout the consistence of sirup, and is very desirable to eat with wheat, mush, gems, griddle cakes and plain puddings. Jellies and jams can be made into fruit sauce by adding four parts of water and thickening. Will not require sugar. These are valuable sauces for invalids and children. Once learning how delicious they are, persons in health will demand them. In many of the small fruits the seeds are very objectionable. This method of using the fruit obviates that.

PEACHES A LA STRAWBERRY.

Ripe peaches cut in small pieces, with soft, mild eating apples, in the proportion of three peaches to

one apple, mixed with sugar, and left to stand two or three hours, makes excellent mock strawberries. —*Kansas Home Cook Book.*

BAKED APPLES.

Pare tart apples; core with a corer or small knife. Place them in pans, and fill cavities with sugar. Bake in a *slow* oven until tender. If sweet apples are used it is better not to pare; sugar not needed.

APPLE SNOW.

Take apples, not very sweet ones, and bake till soft and brown. Then remove the skins and cores; when cool, beat them smooth and fine; add half cup of granulated sugar and the white of one egg. Beat till the mixture will hold on your spoon. Serve with soft custard.— *V. Mills.*

BAKED PEARS.

Take a stone jar, and fill it with alternate layers of pears (without paring) and a little sugar until the jar is full, then pour in as much water as the jar will hold. Bake in a moderate oven three hours.—*Kansas Home Cook Book.*

BAKED PIE-PLANT.

Cut two pounds of pie-plant into a pudding dish, sprinkle over it half a cup of sugar and two table-spoons of flour, or what is better half a cup of rolled bread crumbs. Add water, until the pie-plant is two thirds covered. Bake in a quick oven, thirty or forty minutes. This method of preparing pie-plant removes the medicinal taste, and makes an acceptable spring dish.

GRAVY FOR CHILDREN.

Stir a heaping tablespoon of whole wheat flour smoothly, in half cup cold milk. When a pint of milk boils, stir the above in slowly; add a half teaspoon salt. To prevent burning, melt a little butter in the spider before pouring in the milk. It is more nutritious and wholesome than meat gravy.

FARINA MUSH.

Stir a half cup of farina slowly into a quart of boiling water; cook fifteen minutes, stirring frequently to prevent its sticking; add one-half cup of cream just before removing from the fire. Serve with stewed fruit or fruit sauce.

MACARONI, STEWED.

Cover half pound of macaroni with boiling water and stew slowly two hours, without stirring. Before taking up, season with salt and cream.

MACARONI, BAKED.

Break in small pieces half a pound of macaroni; mix with a half cup of shavings of cheese and a half teaspoon salt. Put into a baking-dish, cover with boiling milk or water, and bake two hours in a moderate oven.

CRACKER OMELET.

Break one quart of oyster crackers in small pieces; pour over them one pint of hot milk, with half teaspoon salt. Stir in three eggs well beaten and put into a hot buttered skillet. Cook slowly ten minutes, stirring frequently.

FRUIT BLANC-MANGE.

One quart of juice of strawberries, cherries, grapes or other juicy fruit; one cup water. When boiling

add two tablespoonfuls sugar, and four tablespoonfuls corn-starch wet in cold water; let boil five or six minutes, then mould in small cups. Serve without sauce or with cream or boiled custard. Lemon juice can be used the same, only requiring more water. This is a very valuable dish for convalescents and pregnant women, where the stomach rejects solid food.

MOTHER'S APPLE PUDDING.

One pint rolled bread-crumbs; two pints tart apples, chopped; one cup seedless raisins; half a cup sugar. Place in layers in an earthen pudding dish; add one cup water; bake slowly two hours. Requires no sauce. Peaches, cherries, plums, etc., can be used in place of apples, and also stewed dried fruits.

RICE AND APPLE PUDDING.

One quart boiled rice; three pints tart chopped apples; half cup sugar; put in layers in earthen baking dish; add half cup water, and bake two hours slowly. Raisins, plums or prunelles can be used to flavor if desired. Serve warm or cold, with cream.

RICE AND RAISINS.

Three cups boiling water; one cup sweet milk; one cup rice; half cup raisins. Mix well together. Cook in steamer or farina-boiler. Mould, and eat warm or cold, with cream or fruit sauce.

RICE SNOW.

One quart sweet milk; five tablespoonfuls rice-flour or corn-starch; one-half cup sugar; whites of four eggs. Boil the milk, stir in the rice-flour

moistened, and add the sugar. When cold whip a little at a time into the eggs, after they are well beaten. Mould, and serve with cream or fruit sauce.

RICE SNOW BALLS.

Two quarts boiling water; one pint boiling milk; two cups rice cooked two hours in farina-boiler without stirring. Mould in small cups, and serve with boiled custard or fruit sauce.

RICE GRIDDLE CAKES.

Two cups boiled rice; one cup sweet milk; two eggs; one cup sifted flour. Bake slowly.

RICE OMELET.

Two cups boiled rice; one cup sweet milk; two eggs. Stir together with egg-beater, and put into a hot buttered skillet. Cook slowly ten minutes, stirring frequently.

RICE AND BERRY PUDDING.

Two cups sweet milk; two cups cold rice, samp or barley; two cups blue-berries, currants, strawberries, seeded cherries or chopped apples; one-third cup sugar; two eggs—yolks and whites separate. Time—one hour; slow oven. Soften the cold rice (or other grain) with the milk, working out all the lumps; then stir in the yolks and sugar beaten together, and also the well-whipped whites. Add the fruit, mixing it in lightly; pour the batter into a dish, set in a dripping-pan of boiling water, and bake slowly one hour. Serve cold or lukewarm, with or without a dressing of cream.—*Health in the Household.*

TOKOLOGY.

APPENDIX

TO THE TENTH EDITION

CONTAINING A CHAPTER UPON

CHANGE OF LIFE

AND A

FAMILIAR LETTER

TO THE READER FROM THE AUTHOR.

CHICAGO.
SANITARY PUBLISHING COMPANY.
1884.

CHANGE OF LIFE.

Change of life is one of the scape goats of physicians and bugbears of patients. Any lady from thirty-five to fifty-five years of age afflicted with dyspepsia, neuralgia, rheumatism, consumption or any other ailment, the doctor, not being able to cure her, pronounces it the meno-pause or "change of life" and time alone can bring relief. Every woman plans and expects to give up eight to ten years of the best part of her life to this climacteric period. She considers herself of little account for business or social duties. She must be petted and nursed, and have every passing whim gratified.

The *meno-pause* is simply a cessation of ovulation. It is the exhaustion of the germ-making power. If a woman menstruates because of the monthly ovulation and deposit, she will cease to menstruate because ovulation has ceased to be a physiological function.

At puberty the ovary enlarges and when fully developed it begins casting off each month perfected ovuli. These are taken up by the fimbriated extremities of the oviducts and conveyed to the uterus.

This function of the uterus continues on an average thirty-two years.

After the meno-pause begins the ovaries become small and shrivelled, resembling a peach stone in shape and appearance.

"At the same time that the ovaries are undergoing this remarkable degenerative change, a similar change is taking place in the other organs of generation. The uterus diminishes in size, as does also the vagina. The mouth of the womb becomes contracted and after a time entirely closed. The upper part of the vagina is often contracted to such a degree as to produce folds closely resembling those which result from serious inflammation about the uterus. The breasts also diminish in size. These changes indicate unmistakably the decline of the function of reproduction, preparatory to its entire suspension.

"As a rule, the capability of procreation ceases with the cessation of menstruation; but this is not universally the case.

"Instances are on record in which pregnancy has occurred before the appearance of menstruation. This seeming anomaly is due to the fact that ovulation and menstruation are really two distinct acts, although usually coincident."

Although menstruation usually ceases from the forty-fifth to the fiftieth year, cases are on record in which "change of life" occurred at much earlier as well as later periods. Dr. T. J. Patchen relates a remarkable case where a girl ceased menstruation at twenty-two accompanied by all the physical changes of the organism as well as attended by the usual symptoms of that period. Cases are recorded where menstruation continued until the seventieth year with regularity and the reproductive function remained unimpaired. In a state of health the

meno-pause should be attended by no unpleasant symptom, by no change from the normal condition.

Ordinarily all the sufferings and ailments incident to this period can be accounted for from some ovarian or uterine disease, dyspepsia or other deviations from health. If these deviations were corrected the "change of life" as a deranged condition would be unknown.

"The perturbations in the general system at this time are of a character so profound as to be wholly inexplicable, were not the intimate relations of the ovaries with the general system through their nervous connections so thoroughly understood.

"During the period of menstrual activity, a woman's system is affected, we may say, dominated, by the influence of these two little glands in a most remarkable manner."

If there is any irritation or congestion in the ovaries more than from any other cause we may expect the numerous symptoms of the climacteric.

Irregularity in menstruation may be looked for about the forty fourth year in temperate climates. In the torrid zone where girls menstruate as early as the tenth or twelfth year it may occur much earlier. But in this country it is often delayed even far beyond the fiftieth year.

There may be occasional absence of the menses or it may first be indicated by frequent and profuse menstruation.

In rare cases the menses cease suddenly without any warning or any special derangement. Women often feel alarmed at the sudden suspension of this

function but their fears are groundless if all other functions are normal. With some women the flow is alternately scanty and profuse for months.

The length of time in which these symptoms occur is extremely variable. It may be only a few months or it may be several years. In extreme cases the symptoms have continued nearly twenty years.

The average period however is about three years.

These changes are accompanied by various pathological symptoms. If there is much hemorrhage the strength is greatly diminished accompanied by spells of prostration and fainting. The appetite is often capricious and fitful as during pregnancy or at the beginning of menstruation. Frequent derangements of stomach, liver and kidneys occur.

Skin diseases, often accompanying this period, are especially distressing from being attended with great itching. One also may have constipation, or diarrhœa, swelled limbs or joints, swelled breasts, headaches, with heat and burning in top of the head or a sore pain at base of the brain; dizziness, dimness of vision with floating specks before the eyes, loss of voice and aching at the base of the tongue, insomnia, strange cravings, difficult breathing, neuralgia, hysteria, etc., etc.

Hot flashes or "flushings" are especially peculiar to this period. First one feels a decided glow or heat as if suddenly transported to a hot room; this is soon followed by a perspiration which may terminate in a chill. They, too, are often accompanied with a sense of suffocation or violent throbbing.

"The phenomenon is precisely the same as flushing and indeed this may be said to be a sort of pathological flushing."

With some the chill is the precursor of the "hot spell." The flashes occur at all times of day and often one wakens with them in the night. They may occur but two or three times a day or annoy one every ten or fifteen minutes, making one wretched by their frequency. They are often the result of some sudden emotion as fright, anger, grief or anxiety. They are wonderfully the product of thought. By observation the patient will notice they are more frequent after drinking wine, tea and coffee or partaking of stimulating food.

"Sometimes nausea and vomiting accompany flushings as does invariably a feeling of weakness and *malaise*, to which the patient should yield herself, securing quiet and repose until the equilibrium of the circulation is restored. Sometimes the congestion of the head becomes so intense as to make apoplexy imminent."

Profuse perspirations, sometimes so copious as to saturate the bed clothing, are also a common symptom of this period. They may follow the hot flushes or occur independently. They are more usual during sleep. They also accompany mental excitement of any kind.

"The mental symptoms are quite as marked and prominent in most cases as are those which relate to any part of the system. Often there is an entire and most remarkable change in disposition. A kind, patient mother, or forbearing, confiding, ex-

emplary wife, becomes irritable, unreasonable and suspicious.

"Her natural modesty may even give place to wantonness in extreme cases, and the mother instincts may become so thoroughly obliterated as to give place to an almost uncontrollable desire to take the lives of her little ones. The once happy woman becomes despondent, moody and taciturn. She avoids company, has no taste for amusements, and spends her time in watching the varying symptoms, and bewailing her real and imaginary woes. In many cases, actual insanity, usually of a temporary character fortunately, is the result of the profound disturbances which the system undergoes at this time."

Uterine Hemorrhage, common to the "change of life," is the only peculiar symptom which really need cause any special anxiety. This may occur once a month or at longer intervals or may be almost constant. It may become so profuse as to endanger the life of the patient. Indeed one is often surprised that life can be sustained under the great loss of blood that some experience.

Tumors, cancers, polypi, etc., are more frequent during the meno-pause than at any other time of life. If the neck of the womb has been injured by attempts at abortion or indurations caused by frequent applications of caustics, conditions are produced that are liable to result in cancer.

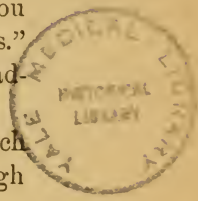
General Treatment.—First: convince yourself that there is no actual need of any indispositions connected with the "change of life." Forget all

the traditions and teachings upon this subject and learn that *nature creates no pathological conditions*, and if you live according to her laws you can by no possible means experience suffering.

You have no use for these ailments. If you are possessed of any stubbornness in your nature bring it into requisition at this time.

Plant your foot down with emphasis and say with one of old, "Get thee behind me, Satan."

It is thoroughly proven that mind can control even malignant diseases and a woman that has lived until she is forty-five, should know enough and be strong enough in her mental organization to say to these symptoms "I will not be your slave, you cannot dominate my life and chain my energies." Do not wait for some doctor to cure you with bread-pills or placebo powders.



The world is only beginning to know how much can be accomplished for physical health through the controlling powers of the mind.

The physical should be subjective to the mental, and can be if one learns the law.

The charge must be laid to physicians that women have made such a mountain of the meno-pause, and they must undo their work by teaching that this is only a natural change, and removing it from the category of diseases.

Before and during this period observe all conditions of hygiene.

Sleep in rooms so thoroughly ventilated that the air will be as pure and sweet as the out-door atmosphere. If women would increase the capacity of

their lungs and breathe air abundantly charged with oxygen, four-fifths of their ailments would be prevented. But who has the wisdom to convince them of this? When a mother thinks her rosy, nine-year old daughter is deformed and she must begin to put her in stays to change her *horrid* figure to one that is trim and neat, what can we hope for the daughter when she takes the responsibility of her own garments? If I could do the greatest thing to stay degeneracy and disease of the human race it would be to convince women that lung power more than anything else contributes to health, longevity and power of endurance.

The dress and exercise that increase ability to breathe with the diaphragm and abdominal muscles do more to prevent and cure diseases of women if not all diseases, than all other possible preventives or medicines.

Upon rising in the morning three or four times a week, take a quick, invigorating sponge bath accompanied by friction from the hand, a Turkish towel or brush. (See page 97.)

Follow this by a draft of cold or hot water, the latter if there is dyspepsia.

In case of inflammation of the ovaries or uterus take a hot sitz bath. (See page 172.) These may be taken every day for a week and then every other day. In case of hemorrhage this bath is invaluable and will relieve it when all other means have failed. (See page 185.) This bath can be taken during the hemorrhage or at frequent intervals between times.

Hot or tepid vaginal injections are invaluable for

controlling hemorrhage and removing congestion of the uterus. For this it is best to use a fountain syringe, hung very high so as to get good force to the water. This measure alone often removes many of the unpleasant symptoms of the menopause.

For *pain in the back* apply hot fomentations twice a day. The hot water bottle is the best for this. Should be very hot and continued thirty or forty minutes or even longer. If there is pain at base of the brain or in the pelvic region this same application is invaluable.

The *flushings* may be relieved temporarily by bathing in very hot water in which there is tincture of lobelia. Use one teaspoonful to a quart of water.

The hot air bath taken three times a week will be found invaluable.

For *profuse sweating* bathe in alcohol and aqua-ammonia, equal parts, heated over steam, as hot as can be borne. Or rub with very hot fine salt. Hot baths will be found useful for this also.

The *diet* during the change of life should be simple, consisting largely of fruits and grains. These can be prepared in many palatable and dainty dishes. (See Dietetics, page 235.)

If one has been accustomed to high living, to rich and greasy food composed largely of the carbonaceous starch, sugar and fat, a change to a simple diet will work wonders in a short time. The whole system will be relieved and a new life will be lived.

The habit once established for a diet that furn-

ishes the nutriment demanded for the system, one cannot be induced to return to that which gorges, stimulates and fattens, but does not nourish. The real relish and gustatory pleasure found in a fruit and grain diet can never be appreciated by those who indulge in inconsistent mixtures of stimulants and disease producing elements.

We have only to look at the record of such lives as Humboldt, Goethe and Bryant to know what a life of temperance and plain living will accomplish.

If there is no appetite wait for its bidding; do not coax it by stimulants and appetizers. Rest of the digestive organs is often the best and surest cure for many diseases.

Let the woman who is a sufferer from hot flushes, dizziness, neuralgia, etc., give up strong tea and coffee, hot bread, pork, and rich pies and cake. Eat only what the appetite demands; and until the severest symptoms are relieved, partake of food not more than twice a day and possibly only once. In fasting if the stomach has a feeling of *goneness* or craving, drink a cup of hot water, hot lemonade or thin gruel made from wheat, barley or oats. A sense of faintness and the inability to omit or postpone a single meal is almost a sure indication of dyspepsia.

If digestion is entirely perfect these feelings can not occur even from a fast of three or four days.

In hundreds of cases all the symptoms and diseases of change of life will yield to treatment for dyspepsia.

Constipation is not unfrequently the cause of

diseases of the meno-pause. Look to it that a constipated habit is entirely overcome Study and follow the hints in Chapter V., and the cases are rare that torpidity of the bowels cannot be removed.

If the habit is allowed it is at one's peril. Simple measures often give the surest relief.

For any serious illness accompanying the "change of life," a physician should be consulted. In all ordinary cases, however, one can be relieved entirely and that in a short time by religiously following the foregoing advice. Nature is kind and heals all our maladies if we only give her the shadow of an opportunity. In the climacteric period put yourself in harmony with nature's laws and you will have no occasion for the physician's potions.

A FAMILIAR LETTER

TO THE READER FROM THE AUTHOR.

In presenting a revised edition of *Tokology*, at the urgent request of many readers, a chapter has been added upon "Change of Life."

If the simple suggestions given upon this matter are followed, the burden of suffering will be removed from the lives of many women.

People have become so accustomed to swallowing pills, powders and potions for even slight ailments that it is difficult to convince them that there are simpler and better methods. These methods are not only often more effectual but are also devoid of the injurious consequences resulting from the use of poisonous drugs. A vast amount of chronic diseases with which people are afflicted are the effect of customary palliative treatment by remedies which only stay the expression of the disease without removing the cause.

A chapter upon menstruation with the derangements of this function would have been added, if the subject was not so ably handled in "For Girls," a special physiology, by Mrs. E. R. Shepherd. We can most cordially recommend this work to every mother, desiring the enlightenment of daughters upon subjects of vital importance. The interests

of humanity demand that our girls should have special education for the responsible positions of wife and mother. We entreat every thinking parent to encourage the perusal of "For Girls" as introductory to the study of *Tokology*.

In passing, however, we will say that if both women and girls remember that if they obey the general laws of health and hygiene as taught in *Tokology*, most of the derangements peculiar to our sex can be prevented as well as often cured.

Menstruation should be entirely devoid of suffering. A woman should have no cognizance of this function save by the discharge. Could this be the rule instead of the prevalent exception, the capacity of strength and endurance either for work or pleasure would be increased one hundred fold. The nation not only needs strong men but strong women, strong in physical as well as mental development. This strength is required for prosecuting a persistent warfare against prevailing and existing wrongs as well as transmitting health and vigor to the coming generation.

Correspondents ask us if the sex of the child can be predetermined. We have no positive information upon this subject, but are investigating the theory of Dr. Sixt, a German physician, with great interest. He claims that the right testicle and right ovum secrete the male principle and the left the female, and that in coition the sperm is injected from one testicle only. His experiments upon animals prove his theory. Whenever the left testicle was removed the animal would beget

males only, and when the right one females. In this theory, Dr. Sixt says: "If a boy is desired the man has to observe the following rules:

1. He must, previous to coition and before the spermatic vesicles become compressed by the muscles, lie to the right of his wife, put the right knee over first, for by so doing he produces a stronger tension of the muscle which is to draw up the right testicle, after which he draws in the left knee.

2. Take his position in such a manner that the right side becomes rather more strained than the left—therefore he is to bend the upper part of the body towards the left."

In order to secure the desired result it is well enough to notice during coition the state of the testicles, and if need be press the right or left one, as the male or female child is desired, up against the abdomen. Any person being in possession of facts bearing upon this theory will confer a favor by communicating them.

We have also been frequently importuned to give more fully our opinions upon the subject of parents limiting the size of the family.

Most emphatically we believe in fewer children and better. Men and women, wise in many things of the world, permit generation as a chance result of copulation without thought of physical or mental conditions to be transmitted to the child. Coition, the one important act, of all others carrying with it the most vital results, is usually committed for selfish gratification. Many a drunkard owes his life-long appetite for alcohol to the fact that the inception

of his life could be traced to a night of dissipation. Physical degeneracy and mental derangements are often caused by the parents producing offspring when laboring under great mental strain or bodily fatigue. Shall not intelligent men and women seek to avert the effect of such disastrous influences from the human beings for whose existence they are responsible ?

The maternal instinct is inherent in women, so engraven in their being that even murderous intent on the part of parents scarcely ever eradicates it. With this natural desire for children, we believe few women would abuse the knowledge or privilege of controlling conception.

Women shrink from forced maternity and from the bearing of children under the great burden of suffering, as well as other adverse conditions. It is rare, though, to find a woman who is not greatly disappointed if she does not, some time in her life, wear the crown of motherhood. An eminent lady teacher, in talking to her pupils, once said: "The greatest calamity that can befall a woman is never to have a child. The next greatest calamity is to have one only."

From my professional experience I am happy to testify that more women seek to overcome causes of sterility than knowledge of limiting the size of the family, or means to destroy the embryo. Also if consultation for the latter purpose was sought it usually was at the instigation of the husband.

Believing in the rights of unborn children and the maternal instinct, I consequently belie.e that

no knowledge should be withheld that will secure proper conditions for the best parenthood.

It is believed by many of our advanced physiologists and philanthropists that the law of continence should be the law to govern married people in the sexual relation. (See page 144.) However, if a woman is not convinced of the truth of this theory or is practically unable to accord her life to it, we would suggest to her the study of the physiological laws of ovulation. Married people, living a life of temperance and moderation, with this knowledge are enabled with a degree of certainty to limit the size of the family.

It requires from eight to ten days for the maturation and passage of the ovum through the oviducts and uterus. Hence avoiding the sexual act absolutely during a period of ten or twelve days after the appearance of the menses, immunity from impregnation is insured in a state of health. Very frequent and intemperate indulgence after this in rare cases may develop another ovum, but will not where one's life is governed by moderation and the relation is participated in mutually by both parties. Disease and discord are sure to result if it is not a mutual relation.

Many of the means used to prevent conception are injurious, and often lay the foundation for a train of physical ailments. Probably no one means is more serious in its consequences than the semen being discharged external to the vagina. The act is incomplete and unnatural and is followed by symptoms similar and as unpleasant as those follow-

ing masturbation. In the male it often results in impotence, in the female in sterility. In both sexes many nervous symptoms are produced, such as headache, defective vision, dyspepsia, insomnia, loss of memory, etc. Very many cases of uterine diseases can be attributed solely to this practice.

The objection to the use of the syringe is that if the sperm has passed into the uterus the fluid can not reach it. A cold fluid in some instances may produce contractions to throw it off, but cannot be relied upon. Drugs that are used to destroy the germ are likely to be injurious, and cannot accomplish the purpose beyond the vagina.

Some of the appliances sold for this purpose are a sure prevention by mechanical interference. If the material is pliable the only positive injury is from preventing complete interchange of magnetism, and the harm may be considered more a negative than a positive one.

A theory is advanced that conception is under thecontrol of the woman's will; that by avoiding the last thrill of passion herself, during coition, she can prevent the ovules being displaced to meet the male germs. By some also a theory called sedular absorption is advanced. In this intercourse is had without culmination. No discharge is allowed. People practicing this method claim the highest possible enjoyment, no loss of vitality, and perfect control of the fecundating power.

When men and women learn that the procreative function is the highest function of their nature, and consequently that passion instead of domi-

nating their lives should be under the reign of reason, then may we hope for a wiser, happier and purer race of beings. Wiser parenthood and intelligent generation is the surest regeneration.

In answer to inquiries for knowledge upon prenatal culture, we refer to A. E. Newton's estimable work upon this subject. At first we were jealous that such a needed work was not written by a woman, but we have become thankful that that man lives whose heart is in sympathy with the needs of the race, and was inspired to give us such words of wisdom. He shows us how we may take the crude metal, fashion and burnish it into a thing of beauty.

For further knowledge upon uterine diseases we refer the reader to G. W. Taylor's Diseases of Women. Also for more extended knowledge upon common maladies of adults or children, the reader is reminded of the value of Ruddock's Family Doctor, a new edition of which is just revised and published by Dr. Gross of this city.

Already we have had many testimonials of people who have derived benefit from following the teachings of *Tokology*. Frequently a lady writes that she would not take $10.00 for her copy if she could not procure another. One writes: "It has been such a comfort to prepare dainty and palatable dishes for an invalid mother from the recipes in dietetics. It is a great gratification to her that she can even have pies and puddings that can do her no possible harm."

Mrs. W., of Forest City, says: "I have depended on *Tokology* for knowledge in bringing up my twin babies. Have taken them through attacks of croup and summer complaint, and have not had to call a doctor."

Mr. J. C. A., of Henderson, Ky., says: "I have been afflicted 25 years with constipation, and rejoice to say I am entirely relieved by following the diet and exercises recommended in *Tokology*. I wish every one knew the value of these simple measures."

Mrs. E. J. McElwain, of Mich., says: "A friend of mine, advanced to the seventh month of pregnancy, bought *Tokology*. She lived entirely by the instructions contained therein. Last Monday was confined. The child was born before the Doctor or any one could get there. She is a true woman, and desires every woman to have the benefit of her experience." This is only one of many similar testimonials.*

One gentleman says he would not take $10.00 for *Tokology*. When he bought it his wife was unable to walk across the floor, but by following the lessons of that little book she can go up and down stairs as easy as he can.

Dr. E. M. Hale, of Chicago, says: "I consider *Tokology the very best book* that can be put into the hands of a girl or young wife."

By permission a few extracts are taken from letters which are only similar to many received, giving wonderful proof of the efficacy of the teachings

of *Tokology*. In many families the work is used as a reference book, while others loan it to friends and neighbors, keeping it on its mission of health and happiness.

My Dear Dr. Stockham:—I have had three children and in the delivery of each have suffered comparatively no pain. With the two first the physician was not in the house ten minutes before the birth of the child, while the last was born half an hour before his arrival, although he made all possible haste. I had never heard anything in regard to painless child-birth. I never was strong and being over thirty before my first child was born, it was a mystery to myself and friends why I should have such easy labors. Several months ago I read *Tokology* and then I understood it, for accidentally I had lived according to its teachings. My diet was entirely of fruits and grains. Meats I had a positive dislike for, and never ate them. Lemons I craved and would eat three or four a day, also all kinds of fruits. Pastries I cared nothing for, living on rice, oat-meal, etc., and the result was as you teach, a painless child-birth. One of my friends, Mrs. M. H., of Springfield, Ohio, in her first confinement, which was severe and prolonged, came near losing her life with that of her babe. The cervix and perineum were lacerated, and her confinement was followed by inflammation and prolonged prostration. Her physician said she probably could not again become pregnant; if she did she would surely die. This was five years ago. Last spring she again conceived, and was very despondent, fear-

ing the worst. When I heard of it I sent her *Tokology*. Hopefully she began following its teachings. She was amply repaid by being safely delivered, comparatively without pain, and no subsequent illness, in her own language, "feeling so well it seemed an absurdity to remain in bed." I have known several others who have followed *Tokology*, and in each case it has proved equally successful. How I wish that every pregnant woman could have this grand work. I know then the agony so many women endure would be prevented.

SALLIE A. GOFF,
Lincoln, Kan.

DEAR DOCTOR:—I am astonished at the benefits derived from *Tokology*. I had the book only a few weeks before confinement; when I procured it my feet were so bloated I could scarcely walk across the room. I followed the advice in the book faithfully and in a short time got so smart I could do my work with ease. The night before confinement I walked two miles and came home feeling well. I got up in the morning and gathered up my clothes for washing, but soon found I had other business on hand. At 10 o'clock, A. M., I had a nice little daughter; was only sick one hour and no very hard pain. Always before, my sickness at such times had been long and severe. Have lain unconscious for hours. My recovery too from previous labors has been very lingering. This time in five days I was dressed and stood upon my feet; in two weeks was able to take care of my child and do much be-

sides. No money could buy my book from me. I most cheerfully give my experience for the benefit of others.

Mrs. Maggie Mead,
Friend, Neb.

To Doctor Stockham, whom I call my best friend.—When about three months advanced in pregnancy I bought *Tokology*. My health was very poor,—was a constant sufferer. My children had all been weak and puny, and died when from three to six months old. With the last I lost my own health; many said I would not live to have another child. I have followed the directions of *Tokology* to the letter. From the first my health improved, and I had a comfortable confinement. The contrast to the previous labors was as day is to night. I can truly say, I owe my life to *Tokology*. Could I not get another I would not take $100 for it. I wish every woman knew the value of the work as I do.

Mrs. A. R. Stewart,
St. Paul, Minn.

My Dear Miss Stockham:—In presenting me your mother's book, you add another one, to your many kind and thoughtful deeds, which will aid me wonderfully in my mission as wife and mother. *Tokology* contains a wealth of enlightenment calculated to promote all that is pure and noble. You and your mother are truly great philanthropists.

Marie F. Bornefeld,
Galveston, Tex.

I wish to thank Dr. Stockham for *Tokology*. I followed its teachings and know I was greatly helped. I wish every young wife and her husband could study it. How I wish I could have read this boo twenty-five years ago; it would have saved me years of suffering.

M. A. Luley,
St. Paul, Minn.

Dear Dr. Stockham:—My delivery was the shortest and easiest I ever had. The Lord was good to me in giving me what I needed. *Tokology* proved a great blessing as my health improved all the time. I have a fine little girl who is perfectly healthy. I can with good conscience recommend *Tokology*. My sister officiated as midwife by the instructions in the book, though previously entirely inexperienced, and did so well. How can any one help understanding your plain directions! I feel very grateful that *Tokology* ever came into my hands. Some of the suggestions are invaluable. Bathing the babe in sweet oil worked like a charm. "Not tying the cord," of which some were fearful, worked so nicely. I thank the Lord for giving you the power to write such a valuable book.

Mrs. L. A. Sherman,
Litchfield, Ill.

My Dear Mrs. Talbot:—Your invaluable gift *Tokology* reached me Christmas morning. I was in bed suffering intensely from uterine disease. I eagerly grasped the book and read as I never did before. Many times I have said that God had

shown no consideration for *frail*, *delicate* women; that bearing children was a *blight* to womanhood and a *curse* to the marriage vow. Why was this? My heart has been in one life-long rebellion. I could not be resigned to the agony endured by wives and mothers. I knew there was something terribly wrong. *Tokology* has solved the problem for me. You cannot imagine how happy it has made me. Already I begin to feel the joy of returning health. I want all my friends and neighbors to have the book. My parents and sisters must read it. I can never tell what a blessing your gift has bestowed on me and *us*. I thank you a thousand times.

S. L. Piggott,
Shreveport, *La.*

The following is a P. S. to a business letter from a lawyer:

Mrs. K. wishes me to add that she faithfully followed your instructions, in regard to fruit diet and sitz baths and owes you very much for good results obtained. The doctor did not reach the house until half an hour after the child was born. She really experienced but one severe pain, while our first child caused her much suffering. We both are grateful for the science you teach.

W. F. Kenfield,
Huron, *Dak.*

My Dear Doctor:—In all previous confinements I had very severe after-pain; when I asked the doctor for something to give relief, he replied so un-

feelingly that this is nature's method of restoring the womb to its natural condition and our first parents had no medicine for after-pains. Thanks to *Tokology*, I had no after-pains this time. I followed the fruit and grain diet, often using three lemons a day. I always took a glass of hot lemonade before breakfast. How good of a woman to write these things as you have done for women.

Yours truly,

MRS. K. J.,
Louisville, Ky.

The following is from a lady physician of large experience :

DEAR DOCTOR:—I am glad to add my testimony to the truths of *Tokology*. I was past thirty-five when I first became pregnant, but by hygienic training before and during pregnancy, I bore three children without suffering. I ate food containing little or no bone-forming material. Every day took plenty of exercise; gardening, walking, gathering fruit, etc. I was careful that my dress caused no restriction about my waist, abdomen or hips, not wearing *even one band* to an undergarment. I took sitz baths before retiring, and during the entire pregnancy enjoyed perfect health. Still on account of my age I fully expected some suffering in child-birth. On the morning of the 3d of December, I noticed painless contraction of the uterus, recurring regularly every hour, the intervals gradually shortening to twenty minutes by dark. I spent the evening very pleasantly entertaining company; no one suspecting I was in labor.

I went to bed and slept until 11 o'clock, when I was awakened by a positive expulsive effort; still no pain. I aroused my husband asking him to prepare a hot sitz bath, which was very grateful. My husband was anxious to call the doctor and nurse and also to arouse my mother who was in the house, but I assured him it was too soon. Although I had lived carefully, I fully believed I must suffer and I begged him to disturb no one until I became *sick*. In a few minutes I felt I must arise from the sitz bath and quickly knelt beside a chair. The next expulsive effort brought a welcome little stranger. I poured my heart out in gratitude for the knowledge that had brought about such wonderful results. With my own hands I tied the cord and removed the placenta. I fixed myself nicely in bed and enjoyed the washing and dressing of my own darling with true motherly delight. My own mother in an adjoining room knew nothing of the event until all was over. The second day I was out doors and the third I took a short ride to visit a patient who needed a minor surgical operation.

When my second child was born we had just made the trip by steamer from New York to San Francisco. We had been out to an evening lecture and were guests at a Water Cure, separated from our baggage. I had slept quietly about an hour when I became aware that I must arouse my husband to go for one trunk with all possible speed. Although a short distance, and he hastened, the child was born without pain while I was entirely

alone. I really felt no need of assistance. With the dear boy w ho has blessed every hour since his advent, we continued the journey to Santa Cruz the third day of his life, with no bad results. My third child was born with only half an hour's painless expulsive effort and as usual I was up and out doors the second day after. If women could be made to understand what is gained by *absolutely* dressing the waist free from any pressure or constriction we could hopefully predict a near millennium of safety and freedom of pain in childbirth. It seems almost hopeless to convince any lady that the bands of her skirts and drawers are any detriment to her in the performance of natural functions. I have known of hundreds of cases where natural conditions have brought about results similar to my own experience. I must take from my diary one case, a strong proof of the truths taught in *Tokology*. Mrs. H. of Philadelphia in the fifth month of pregnancy placed herself under my care. She was married at thirty-five and soon became pregnant. At her full term surgeons discovered deformity of the pelvis, and were forced to perform craniotomy, and instrumental delivery. She was told she never could give birth to a living child. Twice subsequently, by eminent surgeons, abortion was produced in order to save her life. In this last pregnancy, she was told that her constitution was so undermined it would be certain death to destroy the fetus and she had better take her chances by going full term. She came under my care with the expectation of

only four months of life, very feeble and a great sufferer. I was never more determined that any one should have the advantage of the truths of *Tokology*. I kept her out doors lying on a cot and had her practice deep breathing and gymnastics. Three times daily she had *massage* upon her extremities, mostly, and general rubbing of the entire surface in the morning. I gave her cool sitz baths two and three times a day. She soon began to take short walks, although when she came, was unable to cross the room alone. Before the child was born she could walk with ease a mile before partaking of her breakfast of fresh fruit. Although deformed and apparently a physical wreck, by reliance upon these simple methods only, discarding all drugs, she brought forth a living child with only a few hours of suffering. She has ever since been a proud, healthy, happy mother. May God bless you, dear doctor, in your mission of good health to women. Ever faithfully,

HARRIET H. LARKINS, M. D.
Wright, Dickey Co., Dak.

Occasionally it has come to my knowledge that persons following the teachings of *Tokology* in pregnancy have failed in securing desired results. In such cases, almost invariably investigation has proven that some of the directions have not been followed. Nearly always the *fruit diet* has been adopted quite faithfully, and sitz-baths taken as directed. Often no special change has been made in dress, the exercises have been omitted, and the teachings in Chapter XI entirely ignored.

These are all equally important with diet and bathing. The millennium for women, so far as health is concerned, would be at hand, if they could be convinced of the injurious results of corsets, bands, and heavy skirts. These must be discarded. There is no compromise, if one desires the physical development so essential to healthy child-bearing. The stock-raiser would not allow one single girth around a mare in foal, that in any way restricted respiration, digestion and circulation, lest the mare or her offspring be injured. In the physical life of woman she is just as amenable to the laws of nature as is the animal. If a man were to exchange and wear his wife's clothing for one month only, he would show more interest that the mother of his child should avoid the deleterious influence of the fashionable dress. The natural and artistic lines of the body must be preserved to insure the noble attributes and capacities of motherhood.

Exercise is especially essential in pregnancy. Those recommended in *Tokology* increase the capacity of the pelvis and abdomen, develop the muscles to be used in parturition, aid digestion, and equalize circulation. Many ladies, following faithfully the directions for exercise, have been very lax in regard to diet and baths, and yet brought about remarkable results in having an easy delivery. Several instances have come to my knowledge of ladies taking elocution lessons during pregnancy, and with these lessons a thorough course of gymnastics, have brought about a natural delivery,

where labor previously had been prolonged and severe. These were persons who had no knowledge of baths or *fruit diet.*

The following interesting letter is from an intelligent, educated lady who is selling *Tokology* as missionary work:

DEAR DR. STOCKHAM:—Be sure and tell the ladies the importance of exercise during pregnancy. Many are blinded to any measure save the *fruit diet.*

I had *Tokology* only the last six weeks of pregnancy. Previous to that time I had exercised very little. As soon as I read the work I began the gymnastics and walking; took sitz-baths to remove any lameness caused. I also went up and down stairs a great deal, following directions in *Tokology.* The last week was spent in canvassing for your valuable work. I had *painless* contractions of the uterus every few moments during the entire day. After eating my supper, and refusing to play croquet, as I had an *engagement*, I hastened to my room to prepare for the arrival of the little stranger. The contractions began to cause some pain. I made use of the hot sitz-bath, and it gave wonderful relief. I remained in the bath a long time—until I became so sleepy it was necessary to go to bed. I had *no hard pain.* The expulsive efforts were not as painful as the first contractions, and those I had were in the abdomen. After three bearing-down pains I got upon my knees, then I lay down, and the fourth pain brought the child from the uterus into the world, and without any of that tearing pain usually experienced. All was over at 10:30 o'clock.

This was my third boy. With both of the others I was in labor all night and half of the next day, and took chloroform for hours, the *agony* was so unbearable. Each time I was so sore and weak afterward I could not move myself in bed. This time I could move right away to any part of the bed, and the next day sat up to eat food three times. I had my nurse only four days, while each time before I could not do without her under three weeks. I was out selling *Tokology* in less than two weeks, and can assure you, dear Doctor, I never did any work with such a good will as this. It is taking a blessed truth to women. Sincerely your friend, MRS. G. E. BROWN,

Wichita, Kan.

It is probable, where a woman has had inflammation and ulceration of the womb a long time, that she will be unable to bring about conditions to insure a painless labor. This would be the case especially if caustic treatment had been resorted to, which had resulted in induration. A course of hygienic treatment, during pregnancy, will be valuable, but to restore the parts to their normal functions may require years of right living.

I must again emphasize the need of continence between husband and wife during pregnancy. A lady physician in Iowa relates many interesting cases where labor was rendered almost painless simply by the continent life. Her theory is, that the repeated contractions of the vaginal walls and vulva render them unyielding, and, consequently,

there is absolute mechanical obstruction to the passage of the head. The theory is certainly worthy of consideration.

I have long been thoroughly convinced that sexual intercourse during pregnancy, is entirely inimical to the best conditions for maternity. The natural repugnance that most women have for the act during fetal growth ought to cause right-minded people serious thought.

Col. A. B. Meacham, who has spent much time among the Modocs, says: "There is a tradition among them that the Great Spirit blew his breath upon a maiden, and said to her that she should become the mother of the son of the Great Spirit. He forbade her to look upon the face of man until the child was born. To this day, no Indian woman of that tribe who is to become a mother, ever looks upon the face of man."

Is it not possible that here is one potent reason that Indian women have so little suffering in childbirth? May not the intelligent white man learn a lesson of purity, of self-abnegation, as well as of honor to his wife and offspring, from the untutored savage?

We are counseled by eminent physicians, like Acton, Gerrish, Cowan, and Winslow, that the continent life gives to the individual the best physical development, the greatest intellectual strength, the greatest moral excellence, as well as promotes conditions for the improvement of the race.

Prof. Huxley says: "That man has had a liberal education who has been so trained in youth that

his body is the ready servant of his will * * * and who, no stunted ascetic, is full of life and fire, but whose passions are trained to come to heel by a vigorous will, the servant of a tender conscience."

Dr. F. H. Gerrish says: "Man's procreative energy should be to him a sacred trust, to be kept inviolate, and to be used only with the distinct and definite purpose of perpetuating his kind. His children would never be accidents, but begotten intentionally, at a time when both parents are in a good physical and mental condition."

Further, in opposing the prevalent opinion that continence is a cause of disease, he says: "I very much doubt if a member of this association ever had to treat a disease resulting from chaste continence. I would emphasize the adjective, for nothing but harm can come from the excitement dependent on the constant or frequent entertainment of lewd imaginings, even if one abstain altogether from sexual indulgence."

Dr. N. E. Boyd says: "Men need all their vital force not required in fatherhood, for the performance of the labors, material, mental and moral, whereunto they are called."

Dr. Dio Lewis testifies: "Beyond doubt, as men now live, continence is almost impossible. They drug themselves with tobacco and excite themselves with wine. They enervate their powers in heated rooms, and read books which rouse lascivious desires. Naturally, sexual passion attacks them, and if it be refused gratification they become fevered and restless, and declare that health

demands frequent intercourse, and suffers without it. But it is not a *physical necessity.* Under certain conditions absolute continence is consistent with the highest health during the whole life-time. To attain this, however, one must live in perfect accordance with hygienic laws; he cannot expect to suppress one vice and yield to another."

We find the following wise counsels to fathers in a pamphlet entitled "The Better Way," by A. E. Newton:

"The matron, when once her organism has entered upon the work of developing a new life, should be left unmolested by intrusion in that department of her being. The work cannot be well performed—it may be wofully defaced or ruined—if the energies of her system are drawn upon by additional demands upon the sexual organism. At all events, the intuitions of the mother, when against the practice referred to, should never be violated. To abstain from all intrusive acts is a duty which no father can disregard with impunity.

"The strength of the sexual appetite in men is unquestionably the grand obstacle to the improvement of the race in the manner proposed. But is this strength in all cases purely natural and healthy? Otherwise, no one can rationally urge that its demands should be indulged to their full extent—much less that the personal rights, the health and happiness of the opposite sex, and the welfare of unborn generations, should be sacrificed to its indulgence. * * * * Experience has proven that mastery can be attained. A deter-

mined will—an earnest, constant aspiration for power from above to overcome, with a careful abstinence from exciting foods, drinks, acts and thoughts, and the use of appropriate means to allay excitement—these, persisted in, will bring the victory in due time."

William Acton, M. R. C. S.. an English physician eminent in his profession, says:

"True continence is complete control over the passions, exercised by one who has felt their power, and who, were it not for his steady will, not only could but would indulge them. * * * Granted, that continence is a *trial*, a sore trial, a bitter trial, if you will, what, I would ask, is the use or object of a trial but to try, to test, to elicit, strengthen and brace whatever of sterling, whatever of valuable, there is in the thing tried? To yield at once, is this the right way to meet a trial? To lay down one's arms at the first threatening of conflict, is this a *creditable* escape from trial, to say no more? Nay, is it *safe*, when the trial is imposed by the highest possible authority? Our object ought to be to preserve a pure and healthy mind in a pure and healthy body. Judiciously directed, training and exercise of *both* toward this definite object would, I am sure, in most cases, reduce the difficulty of living a chaste life to the minimum, and indeed render the conflict rather a proud and thankful sense of self-command than an arduous struggle. * * * The man who can command even his thoughts will have an easier task in keeping himself continent than he who cannot.

He has great power over his body, who, when physical temptations assail him, can determinedly apply his mind to other subjects, and employ the whole force of his will in turning away, as it were, from the danger."

Carpenter, in a late edition of his work, says to those who urge the wants of nature as an excuse for the illicit gratification of the sexual passion: "Try the effects of close mental application to some ennobling pursuit, in combination with vigorous bodily exercise, before you assert that the appetite is unrestrainable, and act upon that assertion."

To parents desiring the best interest of offspring, these quotations from men of known scientific and professional reputation are worthy of careful thought. Lives based upon these truths will make motherhood desired and offspring a blessing.

In following instructions in *Tokology*, to secure the best possible conditions for maternity, a lady should never lose sight of the value of congenial, absorbing occupation. There should be no leisure to foster morbid symptoms. Having neither financial need nor desire for following a special vocation, the systematic pursuit of some study, as geology, natural history or botany, will give occupation and make conditions for satisfactory pre-natal culture.

Who knows but by throwing her whole soul into the research, and thus being carried out of herself by these ennobling pursuits, she may become the mother of a Humboldt, an Agassiz, or an Audobon?

A letter lies before me from a lady who had long been a sufferer from chronic diseases. By following the instructions of *Tokology* since her marriage and for some months previous to pregnancy, she has overcome most of her troubles. She writes: "I have good news for you. Two months from now I expect to become a mother. The past six months life has been a constant joy. I never have had such good health, consequently such good spirits and enjoyment in my work. I am now spending four or five hours a day in study—German and music, and at his earnest request, Latin, with my husband.

"I do my own housework, and with my sewing, social demands and daily walks, am busy every moment, yet, strange to say I never seemed to have as much leisure as now. We live simply and, I believe, sensibly, and I try to do the things that are best physically and mentally for me as a mother and for the little one who is now part of my life."

This lady finds absorbing interest in training classes of young girls for a noble womanhood and motherhood.

So many objects of philanthropic interest now appeal to every woman that there is abundant opportunity to reach out beyond self. In every direction the needs of humanity demand of all who have hitherto been idlers that they make trial of the blessedness of unselfish endeavor. By responding bravely to these appeals in the days of prospective maternity, the mother will find both present and future reward.

In pregnancy, as in chronic diseases, symptoms are often attributed to *imagination.* It has been proven that the *imagination* or *belief* can create, not only symptoms, but actual disease. Physicians recognize this fact, but are slow to acknowledge the correlative one, that this same imagination or belief is of untold therapeutic value in medical practice.

For self-healing, one can learn to abstract his thoughts from suffering or from the organ affected, so as not to sense the pain. This is somewhat different from opposing the *will* power, as is usually understood; indeed, it is rather the opposite. By an introversion of thought, a *passive* condition is secured and maintained. Evans styles this an "*impressible conscious state.*"

Understanding the conditions, this state can be attained by any one, and while in it pain and disease, *real only in thought*, can be removed. In this way one *thinks* himself out of morbid conditions.

Dr. Evans says: "As thought and existence are identical, a change of thought must necessarily modify our existence. To *think* a change in our bodily condition, and not merely to think about it, will determine all the living forces toward that result, as certainly as a stream issuing from a fountain will flow in another direction when we change the direction of its channel."

One then, really is only to think the opposite of what he is, steadily and persistently, to effect the change.

A story is told of four students who had heard a professor assert that sickness could be induced by working upon the imagination or belief. In support of this statement he related a case of a dose of flour, supposed to be ipecac, producing the ordinary results of that drug.

In one of their rambles these young men saw a teamster on his way to procure lumber at a place some miles distant. They resolved to experiment upon him. Awaiting his return, they stationed themselves at considerable distances and accosted him in friendly manner. Each of them, however, added to his cordial greeting words of regret and dismay at seeing him look so ill.

To the first he stoutly denied any indisposition, but to the second admitted slight indigestion ; the third found him looking miserable and suffering from colic. He was persuaded to stop walking beside his team and ride on his load. The fourth easily induced him to resign the reins, while the teamster, really ill at last, rode home reclining upon his load. He was unable for the rest of the day to leave his home.

A curious experiment was tried by noted surgeons upon a criminal condemned to death. He was made to believe that he was to be bled to death. Stretched upon a table, bound and blindfolded, he awaited the operation. The surgeon with a sharp instrument pricked his flesh to simulate the opening of an artery. At once a small fountain, from which water at blood-heat flowed, was opened over the supposed incision. The water flowing

freely at first, gradually became less and less copious.

The surgeons and attendants spoke among themselves of his failing powers, of his pallor, of his loss of heat and pulse-beats. They questioned him meanwhile as to these symptoms, which questioning he answered in full faith that his life-blood was indeed passing from him. He grew fainter and more faint, gasped for breath, and finally expired.

If a well person can be made to believe he is ill, yes, and really to die of his affection, as is often noticed in an epidemic, may not a sick person be led to believe he is well? Sometimes a *silent suggestion* of friend or physician to this end is more potent than the spoken word.

In the former case the thought of the patient unconsciously seconds the thought of the friend, while in the latter, argument and discussion rouse an opposing force.

A pregnant woman, by *ignoring* her ailments, by abstracting from them her thoughts, by occupying her mind entirely, can bring about wonderful results in overcoming undesired conditions.

In following the teachings of *Tokology* care must be taken that the mind is not directed to watching for and fostering morbid symptoms.

The mind, the *real self*, controls all the functions pertaining to life, and its supremacy can be directed toward removing morbid tendencies. This is merely what is usually termed "getting above one's self," or "putting sorrow, grief and pain under one's feet." It is simply the conquest of

self and sin, as taught in different ways in religion and philosophy.

Learn to subordinate the body. Encourage all indications of health. By a calm trust and a restful faith in the Divine, whom every human being in his real self may approach, sins of the body (disease) as well as sins of the soul may be dethroned, and health and happiness reign supreme.

For the sake of human progress, may every parent lose sight of selfish interest and strive to the utmost for all conditions that shall favor the highest good of offspring, "for to be well-born is the right of every child."

A. B. Stockham, M. D.

Chicago, Ill.

Explanation of Plates.

I. Bones of the pelvis, consisting of the two ossa innominata and the sacrum and coccyx. The two latter are a continuation of the vertebræ. These four bones form a strong protecting wall for the pelvic viscera.

II. Uterus; ovaries in the broad ligaments; oviducts and fimbriated extremities; round ligaments; vagina laid open showing the mouth of the womb and the folds in the mucous membrane.

III. Section of female pelvis. 1, rectum; 2, uterus; 5, bladder; 6, clitoris; 7, urethra; 9, anus; 10, vagina. (See page 10.)

IV. Veins supplying uterus and ovaries. 1, uterus seen from the front; the right half is covered with the peritoneum. 6, 7, utero-ovarian vessels; 8, 8, veins from the oviducts; 10, uterine veins; 11, uterine artery.

V. Arterial vessels of uterus ten days after delivery. 1, body of uterus; 2, mouth of uterus; 3, 3, round ligaments; 4, 4, oviducts; 5, right ovary; 6, 7, 8, 9, 10, 11, arteries giving off branches to the uterus.

VI. Ovary and oviduct; O, ovary; Od., oviduct; Oa., fimbriated extremity of the oviduct.

VII. Nerves of the uterus. 1, sacrum; 2, rectum; 3, bladder; 4, uterus; 5, ovary; 6, extremity of oviduct; A. B., each, a plexus of nerves.

VIII. Fetal surface of the placenta.

IX. Uterine surface of the placenta.

X. Fetal circulation. (See page 14.)

XI. Mammary gland; a, nipple ; b, areola ; c.c.c., lobules; 1, sinus, or milk ducts; 2, extremities of milk ducts.

XII. Grafian follicle, containing the ovum. 1, ovum; 2, 3, membranes of the follicle; 4, its vessels.

XIII. Human embryo at third week, showing the villi of the chorion from which the fetus receives nourishment until about the end of second month. (See page 13.)

XIV. Fetus and surroundings at seventh month. Is not always found in same position.

XV. Fetus in membranes at five months.

XVI. First head presentation.

XVII. First breech presentation.

XVIII. Face presentation.

XIX. Shoulder presentation, in which turning is necessary to effect delivery.

XX. Presentation of head, hand, foot and cord. Also requires turning, but is of rare occurrence.

XXI. Placenta presenting.

XXII. Expanding os uteri and protrusion of membranes, or "bag of waters" in first stage of labor.

XXIII. Twins in utero.

XXIV. Section of a frozen body in the first stage of labor. The neck of the womb is dilated, the bag of waters protruding and the head is in the pelvic cavity.

GLOSSARY.

Abnormal.—Unhealthy, unnatural.

Accoucheur.—Surgeon in childbirth.

Adipose.—Fatty.

Amenorrhœa.—Suppression of menses.

Amaurosis.—Paralysis of optic nerve.

Antiperiodic.—A remedy that prevents the return of periodic diseases.

Antiphlogistic.—Counteracting inflammation.

Antiseptic.—Preventing putrefaction.

Anteversion.—Bending forward.

Anus.—Circular opening or outlet of the bowels.

Anemia.—An impoverished state of blood. Bloodless.

Aperient.—Laxative. Mild cathartic.

Aphtha.—Thrush. Infant sore mouth.

Axilla.—Arm pit.

Bacteria.—Infusoria. Microscropical insects.

Capillaries.—Hair-like vessels for conveying the blood from the arteries to the veins.

Cathartic.—A drug that increases the action of the bowels.

Cellular.—Composed of cells.

Cellulitis.—Inflammation of the cellular tissues.

Cervix.—Neck.

Cervix Uteri.—Neck of the womb.

Cohosh.—Black snake root. Squaw root.

Congestion.—Over-fullness of blood vessels.

Coccyx.—Terminal bone of the spine.

Cystitis.—Inflammation of the bladder.

Depurition.—Removal of impurities.

Diagnosis.—Scientific determination of diseases.

Diaphragm.—Breathing muscles between chest and abdomen.

Diaphoretic.—A remedy that produces perspiration.

Diluent.—A substance that dilutes or thins liquid.

Diphtheria.—A membranous disease of the throat.

Diphtheritic.—Pertaining to diphtheria.

Eclat.—Brilliant reputation.

Emmenagogue.—Remedy that promotes the menstrual discharge.

Enciente.—Pregnant.

Enema.—Injection.

Enteritis.—Inflammation of the intestines.

Ergot.—Smut of rye. A fungus growth found on rye that is poisonous.

Etiology.—The science of the cause of diseases.

Feces.—Discharge from the bowels.

Fomentation.—Moist warm application.

Flatulence.—Gases in the stomach or bowels from fermentation of food.

Fundus.—Body.

Function.—The office or duty of an organ.

Foramen Ovale.—Opening between the auricles of the fetal heart.

Fetal.—Pertaining to fetus or child in the womb.

Fetus.—Child in the womb.

Gastritis.—Inflammation of the stomach.

Gestation.—Growth of the child in the womb.

Gravid.—From gravis, heavy. A term applied to the uterus during gestation.

Gynecology.—The science which treats of the female constitution.

Gustatory.—Pertaining to taste.

Hemorrhoids.—Piles. Tumors in and about the anus.

Hyperæmia.—More than a natural amount of blood in the capillaries.

Hydrastus.—Golden seal.

Hygiene.—The art of preserving health.

Infusoria.—Microscopical insects.

Integument.—Skin.

Insomnia.—Sleeplessness.

Introversion.—Turned within.

Laxative.—Remedy increasing action of the bowels.

Liquor amnii.—Secretion in which the fetus floats.

Massage.—Manipulation of surface and muscles.

Mammary.—Pertaining to the breast.

Malaise.—Feeling of fatigue. Indisposition.

Meconium.—First feces of infant.

Menopause.—Turn of life.

Menorrhagia.—Profuse menstruation.

Metrorrhagia.—Hemorrhage of the womb.

Metritis.—Inflammation of the womb.

Multipara.—Having had several children.

Os.—Mouth. Used as mouth of womb.

Osseous.—Bony.

Osmosis.—Transudation of fluids through membrane.

Obstetrics.—Midwifery.

Ovum.—An egg.

Ova.—Plural of egg.

Ovary.—Almond-shaped body in which the ova are developed.

Parietes.—Walls of a cavity.

Parturition.—Childbirth.

Pathological.—Morbid changes.

Peritonitis.—Inflammation of lining membrane of bowels.

Pelvic.—Pertaining to the lower part of abdomen or pelvis.

Perineum.—The floor of the pelvis or space between the anus and vulva.

Placenta previa.—Placenta presenting in childbirth.

Podophillum.—Mandrake.

Post Partum.—After delivery.

Primipara.—Mother of the first-born.

Phytolacca.—Pokeroot.

Prognosis.—Prediction of the termination of a disease.

Puerperal.—Relating to childbirth.

Prolification.—Act of bearing offspring.

Pubes.—External part of the organs of generation which is covered with hair.

Pubic.—Pertaining to the pubes.

Placenta.—The after-birth.

Prolapsus.—Falling.

Pyæmia.—Blood poisoning.

Rectum.—Lower portion of intestines.

Retroverted.—Bent backward.

Sacral.—Pertaining to the sacrum, the large triangular bone near the end of the spinal column.

Sanguineous.—Bloody.

Sanguinaria.—Blood root.

Sanious.—Secretion tinged with blood.

Saline.—Consisting of salt.

Sanative.—Health producing.

Semen.—Secretion of the testes.

Septic.—A substance that promotes putrefaction.

Solution of Continuity.—Separation of parts.

Septicæmia.—Poisoned by putrid substances.

Stroma.—Connective tissue.

Strumous.—Scrofulous.

Siesta.—Rest.

Styptic.—An astringent. A substance that arrests hemorrhage.

Tampon.—A plug to arrest hemorrhage.

Tissue.—The peculiar structure of a part.

Therapeutic.—The treatment of disease, curative.

Tokology.—Science of midwifery. From Greek *Tokos*, childbirth.

Toxocological.—Pertaining to poisons.

Tympanitic.—Distention of abdomen. Drum-like.

Urinary.—Pertaining to the urine.

Uterus.—Womb. The organ in which the fetus is developed.

Urachus.—A ligament that sustains the bladder.

Umbilicus.—The navel. The place in the abdomen from which the cord is removed.

Vagina.—Passage leading to the womb.

Viscera.—Organs within cavities of the body.

Villi.—Minute papillary elevations for absorption.

Vulva.—Outer lips of the vagina.

Vernix Caseosa.—White unctious material found on a newborn babe.

Zymotic.—Caused by fermentation. A zymotic disease is one caused by bacteria or some morbific principle, acting on the system like a ferment.

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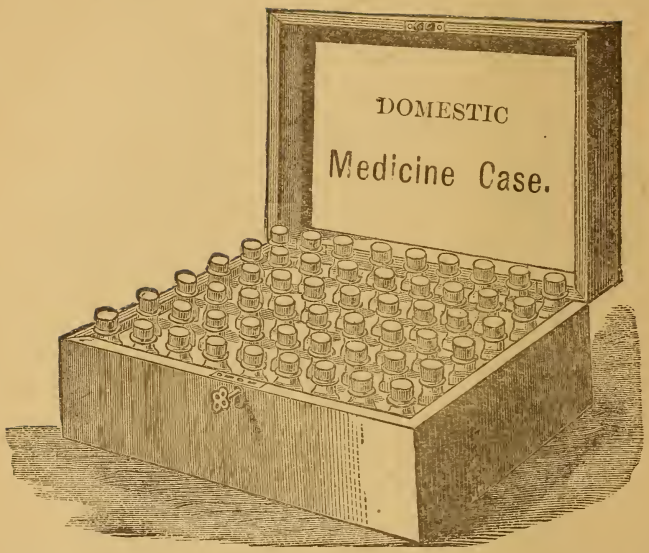

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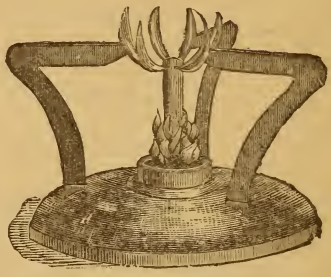

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Patented March 4. 1879.

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EXPLANATION OF CUT.—1, Sprinkler, No. 2, Ear and Infants tube. No. 3, Small Rectum. No. 4, Large Rectum. No. 5, Vaginal Tube, No. 6, Nasal Tube.

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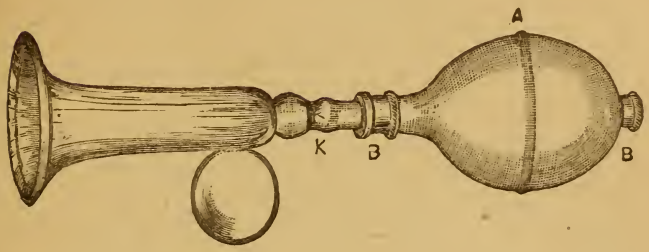

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